

T H E N E W
A D V E N T U R E S

NIA



G H O S T D E V I C E S

S I M O N B U C H E R - J O N E S

GHOST DEVICES

**IN THE EVENING, WHEN THE SKY WAS THE COLOUR OF BURNT
UMBER, THE FACTORIES CRAWLED DOWN THE CONTINENTAL
SHELF TO DRINK.**

The Spire is an inhuman artefact, a construction almost three hundred miles high. But it is more than just a big dumb object. Those close to it can look into the future - a future which is going to be arriving sooner than they think, and which is as bad as can be.

In the here and now, Professor Bernice Summerfield, doyenne of twenty-sixth century archaeology and seedy space-port bars, is used to seeing strange things in her rooms. So it takes the unexpected arrival of an angel to get her away from increasingly desperate professional deadlines and off to investigate one of the seven hundred and seventy-six wonders of the galaxy.

However, Benny is not the only one interested in the Spire. A mysterious race of weaponsmiths, a mutagenic assassin and a sect of fanatically anti-religious reptiles all have their reasons for learning - or concealing - the structure's secrets. And, as she struggles to unlock this ancient mystery, it soon becomes clear that the life of an eccentric professor is of very little consequence indeed.

T H E N E W A D V E N T U R E S

SIMON BUCHER-JONES is a thirtysomething civil servant who would like to be able to say that the plot of this book is simpler than that of *The Death of Art*. Unfortunately, that would be a big fat lie. However, it is simpler that *A Brief History of Time*, and has a pinker cover.

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'That isn't good enough, Mr Vawn. I'm very much afraid I'm going to have to cut off your little finger.' Additional arms sprouted from the Ninjuroid's shoulders and fastened themselves around Vawn. *'Not that I'm actually afraid, you see,'* it continued. *'I say that because I understand that empathization with the pain of another is a human trait I will need to develop in my mimicry responses. Tell me, did it make you feel I was in some way more approachable?'*

'No, it didn't, you mad metal monster,' Vawn shouted, struggling in vain.

'It will avail you nothing to struggle,' the Ninjuroid said in accordance with its *'Stating and Restating the Obvious'* subroutine. Its fingers splayed out in a wash of liquescent metal reforming into whirling brilliant shears. *'I can tell you are a man of inhuman resistance, but I assure you I will break down your reticence before your guards can locate us.'*

There was a noise that was not quite like a carrot being cut.

T H E N E W

A D V E N T U R E S

GHOST DEVICES
Simon Bucher-Jones

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PROLOGUE

NECESSARY BUT INSUFFICIENT CAUSES

Vo'luch Prime: when dinosaurs ruled the Earth.

In the evenings when the star Sadr was the colour of burnt umber, the Factories crawled down the continental shelf to drink. Hoses with diameters measurable in kilometres rose and fell into the fluorescent waters. Bodies of water the volume of the Great Lakes were sieved for deuteronium and rare earths.

Drones hissed steam from their fierce metallic grilles and hanged a few detaching metal plates back on to the decrepit moorings of their various home Factories, but the servicing was increasingly slipshod and careless.

Around the shoreline, a semicircle of towering machinery grumbled in hushed voices. The younger Factories hooted to each other mainly in brief ultrasonic bursts - high frequency stutterings of supply and demand, the interchange of mission statements and the gossip of office machinery. Over these squealing's the oldest Factory's voice boomed like God's megaphone. When it spoke, the younger Factories winced, and changed the subject, as quickly as a flock of birds veers from a hawk. Some talk is dangerous.

THIS WATER TASTES FUNNY,' the oldest Factory complained, for the millionth time, and part of its carefully limited intelligence diverted, again for the millionth time, a portion for chemical analysis. 'IT WASN'T LIKE THIS WHEN I WAS BUILT.' For the millionth time, a brain that was built just fractionally too complex teetered on the verge of innovation. In a mile of wiring, the equivalent of a neuron tripped. 'WELL WHAT ARE YOU YOUNG BUGGERS GOING

TO DO ABOUT IT?’ the megaphone voice boomed, like a peevish thunderstorm.

In the stratosphere, in the sleepless Bombers, carefully calibrated detectors registered. Independent thought was deduced by automatic checking methods that themselves used no intelligence whatsoever.

The younger Factories were backing away at full speed on their massive caterpillar tracks when the inevitable nuclear warhead blew the still complaining oldest Factory into an expanding cloud of radioactive elements.

A long time later a telescopic sensor array burrowed its way out of the radioactive bedrock, and carefully viewed the desolation. Elsewhere a Factory that had learnt an important lesson began to collect iridium.

The planet They’re All Nouns You Idiot, colloquially Noun, so called because of an initial translation problem with the short-tempered native species: AD 2594. a month ago.

The wind was chilling the small man to the bone, but that was the least of his problems. Sul Starren was literally between a rock and a hard place. The rock was the granite-fronted mass of the Twin Bank’s left-hand skyscraper, and the hard place was the ground, straight clown, visible between his feet, a hundred and eighty-seven storeys below.

He was in an antigravity conduit between the Bank’s two headquarters, and the jury-rigged control in his left hand would, at the touch of a button, collapse the safety fields and leave him in the grip of Noun’s natural gravity. He fully intended to kill himself, in another minute or two.

He had no more reasons to delay. He had written his suicide note, headed SUICIDE, REASONS FOR, and filed it under ‘suicide.nte’ in the company database. He had tidied his desk and left a list of all the work he had not been able to get to grips with. He had made sure the insurance policies were somewhere obvious at home, and that they did not leave any sneaky small print, forbidding payment in cases of

voluntary self-destruction. Now, with the safety fields already turned down to minimum, the night wind from between the buildings was in his hair and there was nowhere to go but down.

He started to press the button, and a firm hand closed on his wrist. A dark-haired man, dressed in outlandish, antiquated clothes, was smiling down at him. He glanced down, and fell dizzy as he noticed that the man's brown leather walking boots were unsupported by the antigravity fields of the conduit.

'Think carefully,' the man said. 'It's quite a drop. A I hundred and eighty-six floors, I believe.'

A hundred and eighty-seven,' Sul said automatically. He had worked hard for the promotion from the one hundred and eighty-sixth. Oh, but he missed those simpler, lower-level decisions now.

'As much as that?' the man said, and whistled softly as if impressed. 'You move in high places, Mr Starren.' He had an odd accent that Sul did not recognize. He had heard something similar among the First Colonist families, who could I race their ancestry back to the Northern Hemisphere of Old Earth, but this was different, falling more harshly on the ends of his words. It made him think that the man had grown up speaking a very different language.

'Who are you?' Sul asked, torn between a feeling of gratitude that his action was postponed, and an insane ingrained loyalty to the Bank that demanded that he really should be summoning security.

The man held a finger up to the side of his nose. 'That would be telling, and I've only got a little Lime before they get suspicious.'

'They?'

'Certain powers.' He glanced nervously upward towards a group of faint stars. 'Dangerous to say more. There are treaties and arrangements at stake, contracts between important rivals. It's all a question of spheres within spheres. Wheels of influence, that sort of thing. You understand?'

'No, not really.'

‘Splendid.’ He clapped an arm round Starren’s shoulder. ‘Here’s my proposition. Take yourself back inside, have a nice cup of imported Blue Mountain coffee, or tea from the Chinese People’s Celestial Conglomerate, and give up this street pizza idea. Then plug yourself into the purchasing computers and buy stock in industries on Telveos, Hoopla IV and New Rarga. Tie up the *Wompom* and *Rattacatta* market futures if you can, and then re-invest the profits in plough-shares on Spindrast Maxima. Got that?’

‘But, those are poor short-term purchases,’ Starren stuttered. ‘The Mondesfiore family controls the access corridors to the Telveos Nebula, and charges exorbitant tolls. Hoopla IV’s *Rattacatta* mines are occupied by the supporters of the fundamentalist pretender Prince-Imran Suleiman, and there’s a full-scale civil war on the *Wompom* coasts of New Rarga. I’d be in a worse state before I saw any return from those worlds.’

‘And what, exactly, do you have to lose, hmm? If your, ehm, speculations are not fully covered by profits from these areas within a week, you can always throw yourself off a building, can’t you?’ the stranger said sharply. During this speech his voice had become fainter and fainter, and Starren watched, paralysed, as the wind whipped through the man’s increasingly transparent form. Finally, with a wink, the visitation disappeared, leaving Stan-en alone with his thoughts. A final ‘I’d also advise you to go away for a long holiday once your debts are cleared’ whispered for a second on the night air.

After a while, and solely because the wind was so cold that night, Sul went back into the building and almost savagely slammed the interface links into his skull. Buy, buy, buy, his mind screamed flowing out into the interstellar money markets. Buying *Wompom*, buying *Rattacatta*. As his brain’s intuitive hemisphere handled the multiplex acquisition decisions, its rational hemisphere dug into the Bank’s own records to find more fallow cash that he could divert. He needed just enough to fund this round of purchases, and he could not afford to take it from any of his own customer

accounts. He was already only barely shifting funds ahead of the Bank's internal auditing programmes.

Then, in a tiny pocket of audit space way off the normal financial main streets of the money net, he found a drain on the Bank's resources that had been incurred a hundred years ago. A self-perpetuating trust fund maintaining a number of liens, legally preventing exploration of a dozen worlds, obscure archaeological areas mainly, things that might pay out when the company could spare funds and which it wanted left inviolate until then. If he let the liens lapse, and diverted the cost into the shares, he would be able to renew it from the profits, and there was barely a one-in-a-million chance that anyone would notice in time to organize any exploitation of the worlds. He could always renew the liens later.

He made the necessary arrangements.

Afterwards when the shares were rising, just as he had now decided that he had always thought they would - for he was now firmly convinced that the vision of that night had been nothing more than the upwelling of his own profitmaking instincts, in rebellion against his conscious despair - Sul found himself drawn to a large star atlas in the comfort of his home. Idly he flipped the pages, not obviously looking for anything in particular. It would, after all, be madness to expect to find anything in the area that had so worried his hallucinatory visitor, unless of course Sul himself had earlier noticed something out of the ordinary about that part of space, something that his subconscious might have interpolated into his dream. No. He was quite right. There was nothing there of note within thirty thousand light years. Even the name given to the constellation was archaic and meaningless, and the zone was otherwise unmapped. No known civilizations of any kind.

He decided to forget all about it.

A week later he was shot in the head and killed by a corporate assassin because he had just let the Bank's biggest secret slip out.

ANGELS IN DIRTY PLACES

From *Mega-Hints For type II Civilizations* – a monograph published in the Dellah University Yearbook, 2593, by Professor Gervase Oodd of the CyberTheology Department (later withdrawn when it was pointed out that no such Department, or academic, existed).

Cramped Future Civilizations: take a solar system – actually take several, there isn't enough mass in one - build machines to build machines to build more machines to take the planets apart and rebuild them into a sphere with the nicest of the available suns at its centre. Live on the outside and plate the inside with solar-power collectors, or if you are technically advanced use gravity generators to live on the inside. Orbit a computer the size of a planet around the internal star and call it Cod and let it do all the difficult environmental stuff. This should solve all your overpopulation and space problems, except what to do with your increased leisure time. Take no calls from clones, or emulations of Freeman Dyson, his descendants or their lawyers.

Extract ends

The Worldsphere, Another Galaxy: ad 2594, two weeks ago.

Call him Gabriel, Highest of the Heavenly Host, God's right hand. God's personal organizer. Actually he is composed of data, built out of emulation mathematics, but here in the mind of God he is a handsome six-foot Person (Person being the singular of People, and the generic term for the inhabitants of the Worldsphere). A Person with a worried expression.

The data that took the emulated form of a piece of paper had an emulated yellow Post-it note stuck to the top of it. The

note read: '*Past the Deadline Event Horizon with Straitjacket and Butterfly Net* by Bernice Summerfield.' A thick black line had been drawn through this, and a brownish ring further down the page suggested that cups of Turkish coffee had been rested on it.

'This is a reproduction of data from an external intelligence-gathering asset?' the angel asked. 'A real-world artefact?'

'Certainly,' God said, it was a little hard to arrange without Bernice knowing, but under the circumstances I felt we needed confirmation.'

'It's the same then?'

'I said it would be.'

'But, there was a chance?'

'Always. However it *was* a very small chance.'

'So what now?'

'We proceed as planned of course. It is a pity that this confirms the accuracy of my projections, but the consequences of allowing the matter to resolve itself without our attention far outweighs the individual effects.'

'Do you think I should warn our agents of this?'

'On the whole, no. It might cause conflicts of interest.'

Gabriel sighed and let, or seemed to itself to let, the page flutter away into the howling vortices at the edge of ordered infinity. 'But I like her,' he said.

'Yes,' God agreed sadly. 'So do I.' A cosmic sigh rippled the dataset. 'I will continue to attempt to find a way to ensure her survival but it might be as well to begin composing an epitaph, just in case.'

The planet Dellah: one week and six days ago.

Staggering back from a pub in the students' quarter, at twelve bells past closing time, the bells being measures of spirits, not of chronology, Professor Bernice Summerfield hadn't expected to find an angel waiting on the stairs. However, as she walked to her study, from the red, baked brick of the minor quadrangle, it seemed curiously inevitable,

like a dream of Antarctic exploration ending in a blizzard of stray and rumpled sheets. At some point a supercomputer with enough whimsy or chutzpah to call itself, or allow itself to be called, God was going to be unable to resist the utterly obvious. It took subtlety to be that blindingly callow.

The angel was six feet tall exactly, and stark bollock naked - although. Bernice noted with scholarly amusement, it had sufficient modesty to cover its feet with the tips of its swan-feather wings. The fact that 'the feet' was the euphemism the translators of the King James Bible had picked for the Hebrew terms for the genitalia meant that either Cherubim practised safe sex with their socks on, in which case presumably footsie counted as fourth base, or God was merely sharing a dry, historical, theological joke.

She padded the lock of her door with the palm of her hand, and the skin-conductivity and cell-pattern sensors verified her identity.

'You had better come in then,' she said coolly. 'Goodness alone knows what I'd say if anyone saw you standing out here. The Kinky Gerlinky Memorial Saturluna, Beer Race and Pyjama Jump isn't until the end of term. I should know. I've been voted tutor most likely to wear something embarrassing in red leather.' She hesitated. 'After Donald, the Julian Clary Fellowship Professor of Sexuality in Fashion History, obviously.'

The angel followed her gravely. She listened for its breathing. It did not seem to be bothering to do any. It wasn't that she expected to be able to tell whether the messenger was a drone in a humanoid mechanical body, or an organic construct, or even an ordinarily evolved member of the Dressing Up As Other Galaxies' Religious Figures Special Interest Group: the People, the race - or multiplicity of races - who had God as their *deus ex machina* and paterfamilias were too advanced for simple definitions. Still less was it (at least, so she certainly hoped) that she had any prejudices against any of the People's many equal citizens - it was just a reflex. She had picked up a number of survival reflexes in her travels, some of them amusing in retrospect, some of them

embarrassing in polite company, and some of them downright ugly. At least one involved half killing potentially great sexual partners and being forced to utter clichés like ‘never ever wake me like that again’. That was mainly why she was presently unattached, that and the fact that her ex-husband refused to lie down with a stake through his heart like a good boy.

She gestured at a low contoured couch, a recent addition to the furniture. In the background the usual clutter seemed odd and unusual in the light - Bernice realized that the angel was, literally, slightly luminous - of her visitor's scrutiny of her study. It was a typical tutor's room, piles of paper, datadiscs. Unfinished manuscripts propping up opened crates of the college's special-reserve port. A specimen of *Godzillae E.R. Burroughsia* which had arrived from Tyler's Folly and was too strong a reminder of the recent events there for Bernice to have fully inspected it yet. A painting that smelt slightly of biology and looked like a landscape carved out of liver hung over the mantelpiece. Pretty spartan on the whole, Bernice thought. Almost monastic.

Amid all this, the angel sat and spread its splendid pin-feathers over its toes. Bernice tried to avoid looking below its navel. No good. It might be the strong silent type but it was, physically at least, evidently all there. Top-flight interstellar archaeologists with perfectly genuine professorships and tenure do not blush, she reminded herself sternly. Still, it wasn't only *her* capillaries that were dilating, which she supposed counted as a sort of involuntary compliment.

She plunged for the nearest equivalent situation from her most recent paper on twentieth-century culture: *The Suitcase of Social Embarrassment: Terry & June considered as a metaphor for a world in crisis*. ‘Suitcase’ had been a printer's error for ‘sitcom’, but so far everyone who had read it had said how clever the title had been - a witty reference to the emotional baggage of the period - so she probably wasn't going to correct it.

‘Can I get you a glass of sherry, Vicar, I mean... ehm... Angel?’ She scowled internally. Get back in charge, Bernice.

I'll call you Clarence then, shall I? I refuse to keep saying Angel. It sounds like the set-up for some ghastly pun based on 1950s popular culture. Before God's through I'll be manipulated into pointing out your galaxy of origin in the night sky and telling you to look homeward, or something. You are here as God's representative I take it? Because if this is a student prank one of us is going to be leaving this room with considerably less impressive external genitalia.'

'Yup, I'm God's main man,' the angel said softly, making a pacific gesture with a hand whose infinitely well-buffed fingernails suggested mid-twenty-first-century Postquake Californian Gay Chic.

Bernice shook her head in disbelief, and flung herself down in a chair opposite her guest. 'No sunglasses and trilby, this time, though. I'm disappointed.'

'Only one set of popular cultural references to a manifestation, I'm afraid. Saves on special effects. Besides, that takes two, and my nearest colleague is busy saving falling business people at the moment and making other arrangements.' Clarence leant forward with body language that in a human would have reeked of condescending conspiracy. 'I'm with the Tiny and Interesting Interest Group.'

'Indeed.' Bernice's incipient hangover got suddenly worse. If the itchy-bitsies were involved, chances were this was going to be worrying. Supposedly they were just one of God's hobbies, like making suspiciously inedible dip for the People's parties, an excuse to poke around at things that, however insignificant now, might become a problem on the People's timescale. In fact - or, more accurately, in Bernice's suppositions - they were spies. The People had treaties with powers in the Milky Way far older and more technically advanced than mankind and the recent races. Treaties get broken sometimes. Sensible gods take precautions. One of God's precautions was her. An archaeologist could snoop where angels might fear to tread.

She excused herself long enough to fish in the medicine cabinet in her bathroom. Chemicals swirled into a shot glass fizzed menacingly. When the hissing stopped she grimaced

and chuggalugged the thick brown concoction. A bevvy of teetotal smart drugs flushed their way down through her nervous system taking all the joy out of things for approximately three lifetimes. After her eyes had stopped spinning in their sockets, she felt great. Some students drank just for the buzz of Alcophobe afterwards. Chances were it would be banned in another year.

She strode back into the study with a much clearer head and fixed Clarence with her best piercing gaze. 'Before we start, I may as well say that I have no plans to leave Dellah for a while. I have obligations, here. Papers to mark, students to lambast, books to write. I know my life seems to be failing into a Bernice-has-a-university-problem-goes-on-a-field-trip-almost-gets-killed-but-triumphs-brilliantly-and-solves-her-domestic-crisis-into-the-bargain style of thing, but just occasionally I do need to do some real work.'

'I take it the book's going badly then,' Clarence said, smugly.

'Not at all. It's firming up very nicely. I'm more concerned with Jayne's last essay. She has a theory that the autolit engines producing the *Mr Misnomer* pulps were subverted by radical feminist programmers and that Mr Misnomer was always intended to be a woman, the Misnomer being that she wasn't really a Mr, you see. It's very ingenious, and clever. It's also about as wrong historically as a Cro-Magnon wristwatch.'

Clarence was still looking at her smugly. 'Could I see what you've written so far?' he asked blandly.

'If you must.' Bernice dug into one of the piles of paper, and pulled out a thin sheath. 'This is the, ah, fourth proposal. I'd been thinking of adopting a more anecdotal approach.'

From *Galactic Myths of the Far Frontiers* by Professor Bernice Summerfield: Chapter 1, The Melmoth Jackson Cycle

The following folk tale, or galactic myth, as such unverifiable anecdotes are sometimes termed, was encountered by a first-rank researcher in a bar on Maginty's World. Its ultimate

provenance is uncertain. What can be stated with some degree of truth is that the Vo'lach do exist, or some race or collection of entities terming themselves the Vo'lach do exist, and that they do deal in arms. However, no known empire or political grouping of worlds has ever been ruled by a Melmoth Jackson. He is, however, the protagonist of a number of other local myths: he has, among other reputed exploits, attempted to trade in alien androids more intelligent than himself only to end up being sold by them, and imported predators to one world to fix a damaged ecology only to destroy it further from predatory overbreeding. He is, in short, a patsy, a fall guy, a clutz, and a stumblebum. This story is, however, rather more serious in its results for him than the other exploits attributed to his mythos and it is likely that, rather than being a myth as such, this is a 'cautionary tale', not dissimilar to those told about the lethality of Ninjucoid assassins. It may even have been disseminated by the Vo'lach themselves as a warning to would-be defaulters on payments, or possible time-wasters.

The tale is usually untitled but I have provisionally catalogued it as the story of the Space Pirate and the Vo'lach. It runs as follows.

A less enlightened age would have called him a space pirate. However, those were positively luminous times on the Far Frontiers: times glowing white with expanding gas clouds from recently vaporized ships, and lit with the homely fires of, well, what had recently been homes, so he was referred to in the literature, and the military reports, as an Asteroid Mover Third Class.

A heavily armoured ship in orbit round your planet with a very badly secured asteroid tied to it could make a lot of friends. Temporary, nervous friends admittedly, prone to making remarks about ecological accidents and 'did you know something very like that killed all the dinosaurs?', but, for all that, surprisingly generous when the question of supplies and trade goods came up. His name, or rather his pseudonym, was Melmoth Jackson. He massed a hundred

and ninety kilos in space armour and if he had been happy to remain what he was, a mere marauder and plunderer in the backwaters of galactic history, then a chain of events that endangered a thousand worlds would never have happened, or at least it would have happened differently.

However, he had ambitions.

The Vo'lach had a bad name in that part of space. It had a ' in it for a start and nobody was quite sure how to pronounce it, or whether they would be offended if it was pronounced wrongly. Hardly anyone had ever seen a Vo'lach and there were several rumours about the reasons for this; but what was generally agreed was that they supplied weapons. Not smart weapons. For some reason they did no business in the homicidal AIs, the booby-trapped android toddlers, or the Swiss-army-knife assassins of the Mechanista-A-GoGo Companies, but what they sold had overkill written right through it, like lethal Brighton rock, toxic and gleaming. It did not matter what size it came in. They sold big and they sold small, and they were never knowingly oversold, but whatever the size they always dealt in the kind of weapons where you don't really have to worry very much about aiming. Provided the planet was ahead of you when the purchase - whatever kind it was - went off; that was quite sufficient.

By the time Melmoth applied to them, they were known to have supply lines to twelve wars and fourteen organized crime rings. It might have been thought that his request, for a couple of quark-disassociators and any surplus anti-personnel viruses on their a la carte menu, was too piffling for them to deal with. Their unmarked ship was in the area the next day. The salesman clinched the deal that afternoon.

Ten years later, Melmoth Jackson, hereditary Viceroy by conquest, of a dozen worlds, waved at the hologramatic display that hung like a butterfly above his empty ebony desk.

‘And all this was taken by a chain of conquests that began with one ship and one meagre hold of arms.’

‘A singular achievement, sir.’ The major-domo, a type-five robot, adopted the preprogrammed position known to the suppliers of the galaxy’s mechanical servants as the number-seventy-three irony. It was, as they had always known it would be, wasted on most of their customers. That was the point. It was wasted on Melmoth Jackson. You, its builders wanted its body language to suggest, are, if I might be so bold, a lower-class oik, sir. Smugly, it poured fine wine into a crystal goblet.

‘And, better yet,’ Melmoth crowed. ‘I never paid one iota of spend plasma for those arms.’

‘Astonishing, sir.’

‘All they wanted me to do was to sign some fatuous treaty of mutual assistance.’

‘Indeed, sir.’

‘And you know what?’

‘No, sir.’ A microsecond analysis of a games-theory randomizer array determined that the robot would not, on this occasion, suggest that the continuing commencement of sentences with a conjunction, even in speech, was very probably in error. So it didn’t.

‘I’ve never even read the damned thing. I just embossed my ship’s seal on the datacube and stuck it away.’

‘Remarkable, sir.’

‘You know, I think I’ll read it now. It’s been preying on my mind. I suppose I want to know what I’ve cheated them out of.’

So he read what he had put his ship’s seal to - what he had given his oath to do.

* * *

Shortly afterwards, they say, they found Melmoth Jackson sitting in the centre of a vast room in his palace, the walls of which had been covered with minute specks of human skin and bone and brains. The source of this detritus had been the contents of Melmoth Jackson’s head just before he had pulled the trigger of the strong-atomic-force canceller that he

had clenched between his teeth. Incidentally, it is told that his back teeth survived and can be seen in a museum on the third planet of Barnard's Star.

The treaty with the Vo'lach was never found in its entirety. However, a portion was recovered. According to that section, Melmoth Jackson had undertaken, in return for the weapons from the Vo'lach, 'to build an empire powerful enough to stop us when we come to destroy your race'.

Extract ends

The angel put the pages down. He looked thoughtful, even sad, for a second.

Bernice tried to break the mood - the last thing she felt up to dealing with was literary criticism. 'How do you get away with the -' she made wingspan-measuring movements with her hands '- plumage? I thought all God's agents in the Milky Way had to be humans to avoid breaking the treaty with the Powers That Will Be.'

'Compared to my normal form this is inconspicuous. I'm a Ship.'

Bernice goggled. 'A People Ship? More computer-processing power than anything other than God. Two kilometres long with an astronomical 1Q, and a really long name full of exclamation marks?'

Clarence nodded. 'More or less, yes.'

He looked. Bernice decided, slightly sheepish for a superintellectual spacecraft, even one disguised - hyper-dimensionally? - as an archangel. 'Or less?' she pressed.

The angel scowled. Angry he looked like James Mason, before he had looked like Keanu Reeves. 'I was a Shipherd, working with the Grown Not Made Special Interest Group, raising cuddly living ships for races with terminal technophobia. A charitable venture, you understand. There was an accident. A very, very unforeseen one. Only a tiny proportion of my memory and computing systems survived. God had an untried technique that stood a chance of retaining a portion of my selfhood. I agreed. Now I am an Orgcybe, an organism-dependent cybernetic: an AI inside a

zombie, a machine wrapped in a ghost.’ The angel almost sounded bitter. He tapped his chest. ‘All this is genuine *Homo sapiens!* protoplasm, freely donated and cultured up. It should render me undetectable as a Person. It’s biological support for wetware that mimics my old self. Mimics it, partly; mimics it badly.’ He smiled, grimly. Tin brain-damaged by my own past standards. God calls me his *Evels Netsua*. I am afraid I no longer know what language that is in or what it means. I think God thought you would know, though.’ He looked expectantly at her.

Bother, Bernice thought. Humour is in essence the result of the collision of disparate elements. With a mind like God’s at work, one of the elements might be Lumartran Ethics and another the life cycle of the Levitating Swine of Gadarene III. How the hell was she supposed to know what God meant? It didn’t sound like any language she was familiar with.

A second later she had it. She had forgotten that all of God’s jokes were obvious.

‘It’s backwards,’ Bernice said. ‘Turn it round and it’s Steve Austen. He was the hero of a twentieth-century entertainment, a man who had an accident and was rebuilt as part machine.’ She sighed. ‘Life’s a bitch, sometimes.’ She let out a breath. ‘Oh, what the hell! Tell me your proposition.’

Clarence beamed. ‘Certainly. Do you by any chance have a small orange and a medium-sized knitting needle?’

The Gulag Archipelago, New Karga: contemporary with the angelic visitation on Dellah.

New Karga was a one-face world, gravitationally locked so that its star burnt down forever on one hemisphere alone, but locked so recently in astronomical terms that it still had a biosphere.

It would never have been colonized if it had not been for the strange composition of the plant that clung to the shoreline of the chain of islands that ran round its equator. Even with the anticancer properties of *Wompom*, however, the boiling northern ocean with its deadly thermal currents that swept

the islands with tornadoes in summer, and the frozen southern ocean that bombarded them with ice storms in the winter, would have prevented colonization if not for one more thing: the economic miracle of indentured labour.

After three generations of importing convicts and maintaining their freed but tax-burdened offspring, the colony was a war zone in waiting. Then the Vo'lach had landed a salesman in one of their characteristic small black ships. The war began before they left.

From the shattered shopfront, the dimpled fronts of the holovision sets showed a dozen fizzing caves of steel. The single channel that the colony's generators powered was putting out two men in grey against a background of metal plates.

'My name is Mr Vawn.'

'And I am his associate.'

'We represent the Gulag Archipelago Holding Company, which is a Ninth-Zone-Supported Trading Trust, responsible under law to the government.'

'Our advice is "Lay down your weapons", and "Stay in your Homes".'

The words flashed red and obvious, as well as invisible and subliminal, across the kettledrum auditoria of the holovisions, before someone blew them to splinters with a field laser.

The war had been going on for a while. Opinions differed on exactly when it started. The administration said it had begun when the *Wompom* processing machinery had been annexed by the Hard Thursday terrorists, who everybody knew were in the pay of the West Wing Faction of the Freed Senate. The remaining West radicals said that had been an unsanctioned, opportunistic, criminal incident - if not, in fact, an act perpetrated by administration police to provoke the proletariat - and that the war had begun when the known members of the political West had been herded into internment camps by a law passed illegally over the heads of

the Freed Senate. It was, needless to say, perhaps, a civil war. It was fought on the streets and in the underground storm shelters, and it probably would have been fought on the beaches if they hadn't been covered with the breeding spores of the *Wompom* at the peak of its birthing cycle.

On Leavenworth Island, there was a smell of foreign cooking and the sound of very, very high-velocity insects. The government autodrones were laying suppressing fire down the high street. Low-calibre anti-personnel rounds at the moment, but Altoky, the rebels' most reluctant, and brightest - he often suggested that the latter explained the former - recruit, had suggested that they came supplied with high-explosive and armour-piercing bullets as well, which made the rebels' current hiding place (behind some industrial-plastic refuse dumpsters) pretty damn unsafe. Unfortunately there was nowhere better. The refuse dumpsters were full of curry from the abandoned restaurant. To'szmit, the group's leader, remembered that he had planned to take Shurrlanda there on her birthday before the internments had started and his posturing teenage rebellion had been forced to become real.

There were three autodrones, he estimated, white and silver shadows between him and the sun, each of them a bundle of proximity-aiming cannons mounted on micro-antigravity motors. Cheap, dumb and lethal.

His party had been cut off from the main thrust of the West attack on the government buildings, and he was rapidly running out of options. Shurrlanda had been hit by raking fire from one of the drones and her leg was shattered below the knee. Probably she would never walk again without an expensive implant. Possibly, despite the improvised splint that Altoky had slapped on, she would bleed to death. It was doubly unfortunate that she had been hit because she was the only one in the group who was a good enough shot to stand any chance of bringing down one of the drones, thanks to hours spent on her father's Masonic skeet shoots. Also, To'szmit realized, he guessed he probably loved her, which was a bummer under the circumstances, after all those years

of avoiding commitment. He supposed he'd never expected his radicalism to be taken this seriously.

Keeping his body in the lee of the dumpster, he crawled over to her. If she could fight the pain enough to get one clear shot, well... they would still stand no chance at all, but he wanted to be near her anyway.

He was almost next to her when the autodrone flew over the barrier of uncollected poppadoms and whirred its cannons point-blank in his face. He was close enough to touch the recently painted government insignia on its side. He was dead!

The autodrone burped, twitched, switched magazines to high-explosive, and sprayed what looked like raspberry soufflé out of its weaponry, first in a gush, then in an incontinent dribble. In the sky, the other two drones were shooting at each other with a mixture of armour-piercing, neoteflon-headed, depleted uranium shells, and other squishier bullets. One bounced near Altoky and he prodded it with his foot. To'szmit saw the youngster bend down and pick it up. He held it under his nose. He bit it.

'Cough candy. Bullet-shaped cough candy.' He looked as if he needed to validate the experience, to be told that it really did make sense.

To'szmit started to laugh. It had been so easy to escape alive - all he had needed to do was to go mad.

It was only when Shurrlanda slapped him silly, and he saw what the raspberry gloop was doing to her leg, that he realized he was even madder than that.

Administrator Sanok Vawn pulled at his greying hair and screamed at his underlings. 'If I'd wanted mechanisms that flew up to people and made them better, I'd have strapped rocket motors to a team of surgeons. These things are supposed to be killers, not hovering first-aid stations.' His accent, lower-class than those of the other members of the party, never raised so much as a smile these days, and that was just how he wanted it. It had been a hard road from security guard to leader of the East Faction, and harder still

to gain a role in the administration itself; it would be hardest on anyone who reminded him of it.

He tore through a sheath of newssheet reports. 'Autodrone saves puppy from drowning. End-Indenture terrorists brought tea and toast in government breakfast-in-bed scandal. Autodrone was my lover, says sexy separatist Samanvra Vulpina, 38, 24, 38. Where the hell is this crap coming from. Earl?'

'The terrorists are putting out their own broadsheets from a captured autolit facility on Alcatraz Peak,' his blond assistant said, hastily. 'They, erm, plop straight out of hydraulic delivery tubes into the colony kitchens, just like official bulletins. We can't cut the tubes if we still want to get our version of events on to their breakfast tables.'

Sanok looked up at heaven with the air of someone surrounded by ninnies. 'I suppose there's some jimdandy, stupid, dumbarse reason why we can't just bomb it. I mean stop me if I'm being too subtle here.'

'It's part of the Alcatraz Dam, sir. Don't you remember we had all that trouble over planning permission, back before the coup, and you said that the public didn't care about nature's grandeur if they knew they were going to get working radar ovens and a nicely pressed newssheet in the morning?'

'Snort it up, Earl. You're not paid to tell me what I said. So the rad-excon, West separatists are thumbing their snotty noses at us from plum-bang atop our primary power supply. OK. So what are we doing about it?'

Earl Monet winced. 'Well, one of our tech ops managed to run a databomb up the feedlines in the hope of blowing out the autolit's printing arrays. It wasn't absolutely successful. I understand it's one of those heavily armoured Maxwell-Murdochs. But it did jam the mechanism on to "low-brow tabloid". Nobody takes it seriously as propaganda. I've even seen copies up in the Senate Rooms.'

'Yeah, and I bet you've seen Senators laughing at it too.' Vawn's voice was fast and angry. He towered over his little assistant, hands clenched. 'You know what they're laughing at, boy? They're not laughing at some dumbcluck rebel

spewing out gutter trash. They're laughing at us for not preventing it. They're laughing at the party. They're laughing at me.' His gun was in his hand quite suddenly. His finger squeezed the trigger. He got through more sniffy college-brat personal assistants that way, but what the heck – bullets weren't in any short supply.

Then an autodrone flew threw the window, deflecting the bullet with its armoured underside. Unfortunately, Earl Monet had fainted, so he missed the drone washing the leader's mouth out with carbolic soap.

Dellah: one week and six days ago.

'So what do you propose to pay me?' Bernice asked, when the angel had finished his demonstration.

Clarence smiled a smile that had made her cease to doubt that he had possessed, once at least, if not any longer, an intellect vast and cool and unsympathetic. Christopher Lee briefly elbowed James Mason out of the way.

'God has explained to me that it has simulated you as a subset of its processing capacity. A very, very tiny subset, naturally.'

'Oh, naturally,' Bernice said, stung.

'Take no offence - even a simulacrum of myself as I was would be a very very tiny use of God's mentality.'

'Bigger than me though.'

'Well obviously.'

Clarence ran his human socialization routines again. The professor seemed to be taking offence at something, but he couldn't quite tell what. He had no desire to offend her: he found her intriguing for a protoplasmic intelligence. Not that he had anything against protoplasmic intelligences – after all, he was one himself now. The social checklists creaked in the morass of wetware damp inside his skull and he had to stop speaking for a second, to let genuine sincerity upload itself. This crippled existence was irksome in the extreme. Poor Bernice. She had always lived like this.

‘It’s not intended as an insult. More an honour if anything. Shows God thinks you are worth thinking about.’ Internal memoranda programs reading, ‘You’re digging yourself in deeper here, kid’ started to blip on the inside of his blinking eyelids.

‘Anyway, it’s *what* has been thought that should interest you. The simulacrum, as perfectly you as God’s knowledge of you permits, working without the distractions of field trips, has been writing on your behalf. Simply agree to take part in the Canopus expedition and report your findings and I am authorized to give you the text of your next book, exactly as the simulacrum produced it. Just think: all the benefits of authorship without the pain of composition; and yet you may be assured that it is your ideas and scholarship that are being perused by your peers, not those of some mere ghostwriter or hack.’

‘Clarence,’ Bernice had said, finally, ‘I think I should have called you Lucifer, but you have a deal.’

MURDER MUST ADVERTISE

The Hotel Hesperon, No Prior Claim (Yed Prior X): one week and five days ago.

The walls wore plush with the plumpness of cherubs' bottoms in the more suspect Old Masters, and the sound of flesh being shipped did not even get as far as the steel door before being gently harmonized away by sculpted resonances. When a pinstriped flunky stuck his head under the armpit of the hulking deaf and dumb masseur and hissed, only the pure mass of Francine's body stopped her jumping with shock. Damn it, the door must have opened as silently as a door in a B-movie SF historical where the whoosh had been lost in editing. She'd have to get the management to add a squeak.

'Madam, you must listen to me,' the beetle warbled. Francine Mondesfiore swore under her breath and turned, with amazing effort, the dead weight of her head by a few degrees. Her hangover, half Vasst jag, half Yed beer binge, made the little beetling servant loom up like a bug under a magnifier. The flunky's stripes were natural to the Yed species and denoted, with the artificial highlights that took most of his exorbitant salary, an extremely good matrimonial catch indeed. His voice had the shaky timbre of someone who has just bet a lot of credits owned by someone else on one spin of a gambling wheel.

Under the strong hands of the faithful Gunter, Francine's body quivered with impact and anticipation. It had been a while since anyone had dared to interrupt one of her sessions. The humming of the aircontour 3000 vibrobed shook her reply into a gasping, 'What is it?'

Someone's hit Michel Klarkov - slit his throat with razor wire and left him nose down in an office INST-MAT copier,' The beetle stuttered. 'Every distributor of Vasst in the Nine Systems has been sent a copy of his face printed on poorly repro'd flesh.'

'Shit! Who knew he was running Vasst for us?'

Pinstripe shrugged - a complex ripple of six arms badly mimicking the human gesture. He was too scared to show aspect, and Francine wondered if that should scare her. When the crime families lose respect, her father had always said, it was only a matter of time before the simps, the dogoodniks, and the normos ran their moral majesty crud over everything. Poor Papa. She wondered if he had eaten his bread and water today. Sometimes he resisted for a while. He had the will for a hunger strike but he had never yet carried it through.

She thought hard. 'Get the labs to run the next batch through to Klarkov's contacts uncut. Pure Vasst will destroy most of them before they can be mind-probed. Then cut that supply chain cold turkey and reroute the stuff via Kelmonica.' It would mean payments to the Hard Thursday Terrorists but it would be worth it to keep the higher-profile markets in the core systems open.

Pinstripe nodded.

Then get People's Commissar Husarof on line and get him to close Klarkov's office on a morals charge. Nominally the Commissariat has authority over the Political Council on matters of personal turpitude. It may just stir up enough political questions to give us time to get Klarkov's bank accounts wiped dry.'

'You think he'll do it? The murder of a planetary councilman's pretty big cookies.'

Husarof's had more than enough free brain candy and groin liposuction from us. I've got enough on him to have the neopuritans whipping his buttocks until they fall off.'

Pinstripe did his bobbing nod again.

'Then get anyone who isn't doing that, and find out who killed Michel. I want bollocks on fried bread for this.' Pinstripe hesitated. 'I don't ask twice,' Francine snarled.

'They say it was a Ninjuroid killing, madam,' Pinstripe stuttered.

'They say, they say.' Francine heaved herself up. 'They said that when my father disappeared. They say that when it rains on St Dismas' Eve. A Ninjuroid did it, a Ninjuroid did it. Why do they say it this time?'

'Mainly because of the signed confession,' Pinstripe said, dancing backwards as if fearing physical assault.

'What did it say?' Francine roared. God, but they were all stupid. She had done Papa a favour taking over this bunch of dungfeeders.

Pinstripe read from a strip of what looked like pinkish parchment. Francine realized what the confession must have been copied on to and grinned slowly. You had to admire that sort of thinking.

'This assassination carried out by a Ninjuroid Version-99 Assassin. Lessee remaining anonymous. You too can invest in all that is most up to date in mutogenic homeotropic wetware by accessing CRIMESAFENET-ASSASSINS-R-US in the next twenty minutes.' Pinstripe squinted. 'And a logo of a body with a knife in it.'

Francine let out a long breath. 'They're bloody real then. Who'd have thought it?'

'They say they can mimic anyone. Isn't that so, madam? Get a fragment of DNA and force-grow a body round themselves, quick as slapping on a survival suit. They say they know ninety-seven ways to kill using only St Dismas' Eve decorations.'

'They say far too much.' The new voice was deep and amused, and for a heart-stopping second Francine thought it was her father, and then the large hands of her always faithful masseur closed on her neck and broke it.

* * *

The hulking masseur smiled at the panicking Pinstripe. 'But, you know what? It's all true.' It carried its bulk less

realistically now, and some of the muscle groups were losing definition. There were more efficient muscles underneath, but they did not look like anything you could get from good honest megasteroids and a complete lack of a social life. They looked squeamishly organic in the way that only really high-class mechanical things can.

Squeaking, Pinstripe ran for it.

An annoying clause in the current contract popped up red and glowing in the Ninjuroid's sensorium. It said let Pinstripe go; so it did. The client didn't want the crime family destroyed - only a clean surgery of the present control structure. Well so be it. It expanded a scribing tool from its right hand and began to leave its advertising message.

'This assassination carried out by a Ninjuroid Version-99 Assassin. Lessee Papa DuVal Mondesfiore. You too can invest in all that is most up to date in mutogenic homeotropic wetware by accessing CRIMESAFENET-MURDER-INCORPORATED in the next twenty minutes.'

Dellah: one week and four days ago.

Bernice was packing. The technical preliminaries were out of the way after a hasty confab with her supervisor that left her smelling like a fresh swimming bath from the chlorine-laced atmosphere in his hipbath-sized office, so now she could concentrate on getting her equipment and clothing under the expedition's tight weight allowance. If she couldn't squeeze a multispectrum analysis rig into the general cargo dispensation she was going to be wearing stout boots and thin silk knickers at this rate. At least Clarence wasn't coming with her. His wings would have filled her cargo space on their own.

In the background the holovision flared. Bernice had dragged the barely watched Wiesel X15 out from under the cocktail cabinet, and kicked it until the dodgy discriminator was working well enough to take oral commands. It was audio-visual wallpaper to that most pressing of

archaeological problems: hot pants versus chinos for off-dig wear.

She had set the discriminator to hop the wavebands looking for any matches with the text of her book that Clarence had just happened to pick to read out. Bernice had never placed much faith in coincidence, especially not when applied to angels.

The set fizzed and fluttered through the dozen or so networks that could be picked up on Dellah, SNN, BXB, and so on, and eventually it beeped out a few curiously carved pieces of flotsam from the scrimshaw of popular culture.

The first item to be remotely interesting was from *Know Your Predators*, a so-called citizen crimewatch programme, broadcast on BXB Public Access Hyperband 1. Really it was full of plugs for the latest Megacorporate antitheft systems and personal armour. Its presenter was a swarthy geek with a suspicious beard. Bernice had seen it once before and suspected that they stuck it on just before he went on air.

The geek was all oily sympathy as his voice spilt out of the set.

The following gangland murder was reconstructed from audio-visual and psychographic recordings taken by the room where it occurred. The management of the murder site - the Hesperon Hotel at Pinochan's Bay on the world of Yed Prior X (colloquial name: "No Prior Claim") approximately one hundred and forty light years from Earth in the winter season - are now also under investigation for prostitution, blackmail and personal-data-protection offences. Viewers may remember that the après-sex suite of the Hesperon Regis Hotel - recently featured on SNN's travel show. *Wish Yourself There* - was widely regarded as a must-share experience for jaded debauchees. The sensoramas of the suite are carefully arranged to give all the sensations that are generally felt just after sex without any of the awkwardness or medical risk of actually having had it. The experience is particularly prized by neopuritans who want to be able to say "was that it?" without risking either their souls or their health. Rumours that a parallel service for masochists is available in the "Oh

God I Feel So Cheap” Room are generally denied by the hotel, but some tourists suspect this is solely because the word cheap in the room’s title might Inn in the hotel’s image. Brochures for the Hesperon were available from Afterglow Inc., now in receivership.

‘The reconstruction is coming right up. Remember, violent crime is in fact statistically rare in the central sectors: but if you recognize the killer in this incident, you should not approach. Ninjuroid Assassins are labelled Ultra-Violent and Top Danger by the Trans-System police.’

Bernice nearly told the remote to click on. She was looking for references to the Vo’lach, not Ninjuroids – though she had referred in passing to the myths about them in her book. Then the pressing need to locate three missing socks distracted her, and she let it run on.

The word RECONSTRUCTION strobed over every three-D surface, flat and distorted.

Bernice watched after a while with startled intensity. Some things needed to be seen to the end to ensure that they didn’t remain in the system. This was one of them.

When it was over she tightened up the discriminator to read the word Vo’lach only, and finished packing, half as many clothes and twice as much data as her detractors might have guessed.

The next show to trigger the discriminator caught her attention though. It was the premier strange-but-true show on the hyperbands at the moment, introduced by a muscular babe with a big gun. It was very popular with the male members of her tutorial group for two very prominent reasons, three if you counted the gun; but it was also pretty damn hilarious. The story about the bread roll that looked like President Murtangi’s colon, or the extremely rude crop-circles of Priapus IX, or the serial-killing sea serpents of Leviathan Major were still making their way around the college after last week’s show, getting even stranger with each retelling.

The show was called *Ripley’s Believe It Or FO!* and it was a big cult on campus.

The presenter, neither as blonde nor as dumb as she looked, pouted into shot in spray-on leatherwear. She was carrying a gun so big that it had its own antigrav units. Bernice decided that if the presenter's high heels snapped she'd be left hanging from the gun. It was almost worth watching just in case that happened.

If the crimewatch presenter's voice had been oily, hers was a full massage.

'All over human-explored space, or at least over that fraction of it covered by the major news networks, wars are getting out of hand - but in good ways.'

A quick montage of news footage showed perfectly normal devices - devices built with loving care to eviscerate, maim, spindle, mutilate or vaporize - walking dogs, constructing fire breaks and, in one extreme case, collaborating with other weapons to build a one-to-twenty-four-scale replica of a steam locomotive in the bathroom of the Tyrant of Barnard's Star. Surprisingly it did not look faked.

'Today an embarrassed peace hangs over the battlefields of a score of worlds like a sick headache after a particularly violent office party.'

'We went to Mechanista-A-GoGo, the funky company that specializes in android death machines, to ask: should we believe it or FO?'

The Mechanista-A-GoGo representative was a harassed-looking eight-year-old. He probably had no more than two good years left in the weaponry cartel business. It was a truth universally acknowledged by military cyberneticists that only the very young really intuitively understood the most modern advances in computer science. Consequently, the war business recruited its best 'deathmaster'-class experts from the under-eights. Ideally they should also have come from broken homes and lack empathic socialization, but only the really top-class, the so-called 'Violent Elizabeths', met those criteria.

'We've been up long past our bedtimes, trying to unravel this one,' he said absentmindedly tugging at his nightshirt sleeves where mittens hanging on cotton threads looked like

spare hands. 'It's got us foxed. We've had to ship in extra consignments of drinks with bright orange food colouring, but even so we're dropping like toddlers in there.'

'What exactly is wrong with the weapons in question?' Ripley asked.

'Who knows. They're all too simple for spontaneous AI node formation. I mean Pavlovian simplicity. If it looks like this, destroy; otherwise do not destroy. Not much scope for subtlety there. It seems an impossible problem.' He sniffed. 'I want my mummy.'

'Is there anything the weapons have in common?' Ripley asked, patting the boy on the head consolingly.

'Well, they're ninety-five per cent Vo'lach-made, but that's not surprising - the Vo'lach have built a military supply empire on at least a thousand years' worth of known absolute reliability. No one else has ever been able to sustain competition with them in their core markets.' He looked worried. 'I hope this isn't going to be another Long Peace.'

Ripley turned to the audience.

'So there it is. For no known reason weapons are going pacifist on their angry masters. It looks like the Vo'lach are responsible but they have no maintenance teams, no aftersales service, no hyperwave lines locked on hold with Hoist, Wagner, and Justifiable Ragnarok playing. They have never needed them until now. Until today they never had a disgruntled customer. So is the complete absence of any aftersales infrastructure, or indeed any known way to contact them at all, an oversight or an astonishingly innovative business practice? And is this all true? We say believe it or FO!'

From the diary of Professor Bernice Summerfield

Well, the rest of the day is frankly a bit of a blur, but I think I earned my place on the expedition just from my skill in talking Dr Follett into letting me skip out for another field trip, and my ability to fit three weeks' clothes and an archaeological lab into one suitcase.

The nominal head of the expedition under the actual ship's captain, the captain being, I guess, the representative of the sponsors - although no one is actually saying so - is Malkovitch Fellows, who holds the Daedalus Chair of Applied Physics. I was quite prepared to be chummy, but he made it clear that he regards me as an encumbrance and that if I hadn't got pull with Farouk, his head of department, he wouldn't be letting me shoehorn myself in like this. I got the strong impression that if Farouk had been left on Perfecton when its sun went nova, Fellows would have been able to keep his grief down to a seemly level.

It will take a week plus to reach Canopus IV. It's going to be a long voyage.

Extract ends

In orbit around Canopus IV, on board the starship *Second-Best Buy*: the present.

It did look, from space, like a dusty pinkish orange with the tip of a knitting needle sticking out of it. Appearances can be destructive to the imagination. It was almost impossible to grasp that the orange was a planet, and the needle was a building. The planet was roughly three-quarters the size of Earth, a little under 9,500 kilometres in diameter at the equator. The building was visible from space. That could not be emphasized enough, Bernice thought, so she said it again to herself with capital letters, underlining and a fancy font. In the earlier days of Earth spaceflight they had said that the Great Wall of China was the only human-created structure visible from space. A thin white line across a continental mass seen from close orbit could not match the scale of this vertical point plunging out of the equator, catching starlight on its razor edge. She did not have to feign being impressed. The thing had to be three hundred kilometres high, at least.

'Three hundred and forty-four point nine kilometres to be exact, Professor.' The thin tones of the expedition's leader insinuated themselves into her ear, and she had to accept that she had, without meaning to, spoken aloud. 'That's two

hundred and fourteen pre-EU-standardization miles to you, my dear.' Bernice smothered a wince - trust that patronizing little git, Malkovitch Fellows, to take a great movie-opening-sequence moment and turn it into university infighting. Nobody used miles any more, not even historians and archaeologists. Fellows was just showing off his flimsy erudition. Not content to be a physicist, he was well known for wanting to keep a toe in every other discipline on the campus.

'Fascinating,' she said - po-faced - and turned the tables by asking with every appearance of innocence, 'What's it made of?'

Malkovitch Fellows twitched slightly. 'We don't bloody know, do we?' he spluttered. 'I thought that was the whole point.'

You may not know, Bernice thought with satisfaction, but then you're not on the side of the angels.

Canopus IV

The clawed hands with which Tenomi laid his vestments to one side were blotched with the scars of *Gath* fever. His fingers shook as he placed the robes in the chest of scented wood. Ordinarily he would have had servants to help him disrobe, but he had ordered them away since the first onset of the illness. When death came his body would be embalmed in the prescribed manner and displayed in the outer chambers of the Spire, under its vast central arch, and then idle fellows and gossiping broodwives would be able to see the wounds that the disease had made on his flesh. Until then, he still had his pride.

A bitter, spicy tang stung his narrow nostrils. The chest was made from the wood of the trees of Aludren, which had grown on the hill behind his house when he was fresh out of the eggwomb. He would never see the forests of the south islands again or smell the pollen of their trees. Soon he would go down into the grey lands to mourn with his parents.

A stab of pain from his wrist drew him back from the grey future, and he pulled queasily at the scabs on his left forearm. The fever was invariably fatal. Even in the great buildings that huddled around the Spire, there was no escape from the infection. Carried by the omnipresent parasitic beetled that infested pilgrims and their sandstriders alike, the plague struck down folk from all estates: priest, noble or landsman. It respected no person and no title. Tenomi III, Priest-King of the Spire, hierophant, seer, and Scribe of the Gods, had at best a fiveday to live.

The one consolation of his position was that the fever would bring a mild and gentle death. For him there would be none of the agony of those brought down in war or family feuds. Instead the temperature of his blood would pass a point of no return and crucial chemical components of his brain tissues would change their state. He had begun a journal of his sensations in the hope that they might elucidate some of the obscurer prophesies. Surely somewhere in the welter of nonsense and madness that poured down the Spire from the future, there would be something as simple and practical as a cure for the fever.

Thus did the Gods care for their children, Tenomi thought bitterly. In the meditations of Tenomi I, the fourth book on the second shelf of the eighteenth rack of the Great Library, the vectors and symptoms of the fever were perfectly described, a full thirty years before the first case reached the northern nations. In the hundred and nine years since, the disease had reached its grand climactic year on three occasions. As yet the Gods had not cared to reveal its cure.

Sometimes Tenomi doubted the Spire was anything to do with the Gods at all.

Sighing, he toyed with one of the scrolls of prophesies that he had been quoting from in the service. It was one of the rare prophetic texts in that the events it depicted were dated; so much that filled the minds of the priests in their dreams was vague or, if clear, was forbidden knowledge, but this was plain and simple. He had chosen it for his discourse in the temple because of that, and because the proof of it would be

determined within the likely span of his remaining lifetime. Either it would come true today or it would be consigned to the lire pits, with the other prophecies that had proven false.

Tenomi ran a shaking claw under the red hieroglyphs: 'On the day of the Catchal Festival, in the eleventh year of my second namesake, strangers will come to barter and will open the way to the secrets of the Gods and their children.'

DARK AND STORMY LIGHT

From *Mr Misnomer And The Polar Peril*. Editor's note: the uncharacteristic exclamation 'Yowling cataclysms', here attributed to one of Mr Misnomer's aides, suggests that this text was produced by a different autolit facility than that responsible for the main run of the series. Its canonicity is therefore doubtful.

Deftly, Mr Misnomer stitched the transparent thread through the innards of the computer. His long surgeon's fingers spliced the nanoscopic connections with practised ease. Fizzing and spluttering, the autopilot of the crashed skimmer sprang to life.

'Yowling cataclysms, boss!' Captain Jacob 'Yeti' Yetiovitch, one of his seven trusty aides, ejaculated. 'Where'd you get the material to mend the pilot in this arctic wasteland?'

Mr Misnomer smiled. 'There was one thing Herr Doktor Harbinger overlooked. That the fur of the common polar bear has remarkable fibre-optic properties...'

'Jeez, boss. While I was unconscious, you hunted down and killed a bear with your bare hands in the dead of arctic winter with nothing but your battle vest between you and hypothermic death?'

'Certainly, not,' Mr Misnomer said, shocked. 'The polar bear, unlike the insidious Doktor Harbinger, is no enemy of mine.' Deftly he patted the pocket of his battle vest, which housed the tiny electric razor he had built from the parts in his ultimatility belt. 'The specimen in question, a full-grown male, should soon replace a small patch of hair. I also removed a small precancerous cell cluster by way of payment. That bear should outlive us both!'

Extract Ends

Bernice flung down the text, irritated. Usually the hyperbole and melodrama of the pulps provided her with some degree of amusement, but not even Mr Misnomer's chilly predicament could get her mind off her own problems right now. Mr Misnomer would always triumph, but there would never be mi escape for him from his world of mechanical karma, in which the next disaster, nuclear extortion, or invasion of parallel-universe meta-termites was only a page away; not for him the resolutions of marriage or death, of tragedy or comedy. It wasn't even a real story, she thought sourly with unusual vehemence, just a sequence of mythic elements produced by a fairly primitive action-thriller-text kaleidoscope program that used Burroughs' cut-up techniques and primal-plot archetypes to endlessly recycle the traditional passion play of Good Guys versus the Men In Black Hats. That was her problem, in a pun, of course: irresolution.

She reached for her diary.

From the diary of Professor Bernice Summerfield

Well, I guess I've done it now. Talk about selling your soul. I've been sorry since I made planet-fall here, and the perpetual sandstorms haven't helped. I'm writing this in my quarters at expedition ground-zero, which is to say, in a fairly standard automatic self-erecting survival tent, in a wadi just above the equator. Outside you could etch without equipment: the liquid precipitation that started after the first half-hour of the sandstorm has the pH of barely diluted hydrochloric acid. But at least in here the constant impact of silica and acid rain – the piddle of the sands, you might call it – on the layered pseudo-canvas of the tent is reduced to the merely maddening.

Really I should be researching, but instead I've been looking at the tent, and worrying about my bargain with Clarence. The tent is the largest accommodation module the expedition had, although the lab and mess facilities will be larger when fully extended. Incidentally, it's the only

expedition tent with a double bed. I hope that doesn't mean Malkovitch has designs on my body. Oh, I suppose he means well, but what a zoonie. I know I don't usually dabble in twenty-second-century slang, but really there's no other word for him. Besides, even if he was a human splicing of the genes of Calvin Klein IV, Herakles, and the winner of last year's Sex Olympics' Traditional Mixed Doubles, I'm in more of a morbid self-pitying mood than a rumpy-pumpy one.

I think I've been sold a pig in a poke, and that I'm it.

How could I have been so easily bought? Of course, I *was*, stuffed both ways, as the turkey said to the colonel. If I didn't agree to come on this expedition then I'd probably never get to see what God thinks I would have written, then I'd have to wonder what it was for ever. No question but that I would too. I've got that sort of brain. It goes with archaeology, and God knows that even without a simulation.

Having agreed, I have to face up to the fact that I will get to see it, and then what? Well, that's a very good question. If it's what I would have written anyway then I might as well get God to ghostwrite my life and go and suck my thumb in a corner. I wonder how the People cope? It's bad enough getting that feeling that comes sometimes in the middle of the night that there is nothing, simply nothing, that you can do that cannot be done better by someone somewhere in the galaxy. It must be worse to know that the person also looks in every so often to check the biosphere, fix the toaster, and offer friendly advice. Yet they seem so sane. Possibly you have to be brought up with it.

It may be irrational, it may be my upbringing – military orphanage, self-taught archaeologist, galactic traveller and part-time troubleshooter, finally real professor at a real university, with, unfortunately, real colleagues – but I don't feel happy knowing that God thinks – or that it is purported that God thinks – that it can just turn me on when it likes in its mind.

I suppose I feel that, if I can be simulated by God, then I can be reduced to an autolit engine, and that, if so, anything I write can be divorced from its logical origins in my

experience and be perceived as being of as little literary merit as the common view of the Mr Misnomer pulps. Now, logic tells me that if what I would have written would have been worth leading, then it would remain worth reading even if it had been produced by a subset of an alien artificial intelligence. But I just don't accept that inside, logic or not. Besides, and this raises a fresh wave of existential angst, if God had successfully simulated me, why would it stop?

Extract ends

Bernice stopped writing. The answer, 'because you are basically of no interest to God whatsoever, and when it has what u wants it'll just turn you off, and - click - another Bernice will be a white dot vanishing on a million metaphorical holovision screens', popped up in her mind, but she beat it back. Some things don't get into the diary, ever. It's one level of honesty never to erase what does reach it, only Post-it-noting over with preferred versions, but she did not kid herself. No one writes down all the froth and anger, all the bric-a-brac and heirlooms, all the detritus of the head, that even the sanest of us carry about from day to day. Diaries don't come that big. She resolved to finish the entry later.

From the diary of Professor Bernice Summerfield - continued

Or, rather, what if it didn't? It would mean that I could never be sure that somewhere in a foreign God there wasn't a patch of pseudo-neurons that were forever Benny. It has enough processing capacity to sustain whole worlds, and this raises Paranoid Frontal Lobe Removal Headache Number None: since simulating me at all implies simulating the simulation's total apparent sensory input, how do I know that I'm not the simulation *now*. It's no help that I don't think I feel like a computer program - how would I know that how I feel isn't how one feels?

I suppose, because I haven't finished the book, that I can't be. Definition by failure is as good a test of organic life as anything, I suppose. At least, it will do.

Where was I? Ah, yes...

Then, if I get to see this book - even if I don't give in to the temptation to plagiarize my own doppelganger's output, how will I be able to second-guess myself and produce something better.

I hate this.

Here I am within spitting distance of one of *the* great unsolved mysteries, so close that I could see it if it wasn't for the sandstorm in between - which is to say we are on the same continent - and can I get to grips with the findings from Fellows' initial work? No, I can't, because I'm too busy worrying that a supercomputer in a Dyson Sphere in another galaxy might be writing my book for me.

I'm going to get some sleep. In the morning this may be better.

It had better be.

Extract ends

Professor Malkovitch Fellows locked the focusing control on the spy scope and passed the tiny optical sensor to Captain I Sandra Johansen. They had left the encampment and struck out to the north, relying on magnetic navigation to get them beyond the storm's boundaries. The pink sand and the acid had pelted on the outside of their survival suits in a way that Malkovitch had found almost pleasant. It was like the astringent showers favoured on his homeworld. He had never got used to water falling freely from the air on Dellah. Most unhygienic. He was so glad to be back in the field, and away from Professor Farouk, his nominal superior in the university's science department.

Captain Johansen's company was welcome too - unlike that of Bernice 'Jonah' Summerfield. The woman had been a jinx on so many offworld field trips, that it had got to be something of a joke. She had also been most uncivil aboard ship, walking about with her nose in the air and refusing to

take the most elementary interest in the mechanics of the expedition. When he had tried to correct the archaeologist on a number of matters of fact, purely with a view to establishing the scale of the problem facing them, she had just wandered off to chat to the ship's crew, as if there was no point to the conversation. Goodness knows, he had no desire to be uncharitable to the woman, but it was hard to ignore the gossip. Whispers of the sundry fates of other expeditions that Professor Summerfield had accompanied had come back to the junior common room, and, while it was true that no one had actually died, as such, certainly none of the teaching staff, there was no great clamour to get her name down on the personnel lists for extracurricular activities. If Farouk hadn't insisted on it he would never have consented to her presence. As it was he had given her the biggest tent, and he profoundly hoped that she would be content to skulk in it.

He had hoped to reserve that tent for himself, and possibly for the delectable Captain Johansen, whose company had grown more and more congenial to him since he had first chartered her ship. Not that he had any evidence that she felt anything for him other than the slight contempt of the practical professional for the scientific expert. Still, at least he could enjoy her company, and her looks. Like Fellows himself she was dressed in a sand-coloured survival suit - thin as silk, tough as space armour, too skin-tight for comfort in a number of ways. His night-vision goggles were showing interesting patterns on her suit's surface and speculation about what parts of her body were responsible for which heat spot was starting to steam them up. Fellows felt that he was getting near some profoundly unfortunate thoughts. He tried to focus his attention on what Sandra was looking at, and not on her skin.

'Now we are out of the storm penumbra you can see the native buildings around the base of the central pylon. Don't let the scale fool you: some of the earthworkings and keen are ten storeys high.'

She grunted, and in Fellows' infrared vision the dark lines of her fair, wispy eyebrows drew together a fraction across the fires of her face. He knew her well enough to know that the laconic reaction masked a real impact.

'They look like ant hills stacked around a skyscraper. How high is that thing again?'

'Radar telemetry puts the apex of the Spire at over three hundred kilometres above sea level, but there must be a substantial foundation below ground to anchor its mass. Say three hundred and seventy kilometres for the total height. It has to be the single largest, planet-bound structure in explored space.'

'You reckon it was part of a space elevator? Gamoranski wrote that it might have been a ground installation.'

Fellows snorted. 'Some xeno-archaeologists ought to be put in a sack with a dozen rabid hypotheses and then prodded with a sharp stick. Helen Gamoranski hasn't been any nearer, here than the beauty parlours in Earth orbit.'

Sandra smiled. 'Careful. Your academic jealousy is showing.'

'No, really. Just look at it. You must have studied basic space construction in your pilot training?'

Sandra spat on to the hot sand. 'Never studied, Doc. Flew bugsprayers over the sea farms on Ordifica as a girl. Stowed away on a Hotop Company cargo shifter and worked passage to the Central Stars as a teenager. Didn't learn much about engineering there, although I was under the chief engineer a fair bit as I recall.'

Doctor Fellows blushed slightly, his prematurely elderly, slightly Asiatic features brightening in the infrared.

'Ah, well, the simplest space elevator requires only an orbiting component in geocentric orbit and a sufficiently strong synthetic "rope" reaching down to the planet below, up and down which cargoes can ride with only a fraction of the energy expenditure required by reaction or antigravity methods of reaching orbit. We have one on Dellah. All quite obvious - the idea predates space travel.'

He gestured at the vertical line that was bisecting the sky.

'You don't need a vast glowing spike built, according to the neutrino deflection scans your ship very expensively made for me, out of an isohedrally clustered crystalline allotrope of an artificially stabilized high atomic weight clement, with an internal composition of we-don't-know-and-can't-find-out-what.'

'Isohedral what?'

'The molecules are wound up into metastable globes. Carbon 60 is the simplest example. The shape of the molecules actually changes the apparent properties of the element.'

Sandra considered. 'It stands up because it's got balls! Very phallic. So, what is it for?'

Fellows' brown eyes glinted. 'No one knows. But the natives I've spoken to in the villages around the river delta say that it's been there longer than their race has been out of the eggwomb. They say the Gods built it and went away. And they say that the priests who live around it can tell the future.'

'What does the company say? I doubt our backers are interested in local soothsayers. Noun's got high-power chaotic predictors working on the stock-market futures - they don't need no stinking lizards.'

Fellows bit at his lip inside the survival suit. He wished that she wouldn't speak of the natives in that way. Oh, it was light-hearted banter: it was a quotation, or at least it sounded as if it might be one. But even so, it stung. He had seen on his preliminary, illegal, field trips how hard the natives worked to claw a living out of the burning sand. Strictly he ought to upbraid her. She was after all in his employment. Yes, he would do it. He'd tell her that the natives might not suit her tastes, but that he would not have them belittled. But of course, he didn't. He just watched the interplay of her muscles as she dropped to pick up something from the sand at her feet.

It was a clear white crystal, about thirty centimetres in length, and under infrared light its whiteness was shot

through with sparks of fire that almost looked like letters in an incendiary alphabet.

This is what they want, isn't it?' she said. 'Futurite.'

Under the arch, in the great hall whose ionic columns met in curves that vanished in the mist of low clouds, the priest stirred in their meditation pits. Spaced at regular intervals. the priest holes were of a depth that left the priests' mouths level with the floor. With the original floor that is, for over the centuries the steady pacing of the clerks in their grey and yellow vestments had worn down the paths that twine between the priests until the record-keepers were walking in deep trenches that left their chests level with the heads of the priests. Now the square of the thousand mendicants resembled row upon row of squat volcanoes, each cone the remaining thickness of the original floor material within which the dreaming priests were interred.

Ancient steps of rough timber now gave access to the holes at the apex of each cone. The passing clerks muttered as they walked, writing the words of the dreaming priests on the clay tablets that they carried. The clerks were alert for key words, 'healing', 'cure', 'plague'.

In one particular priest hole, Geth Kathath stirred in the grip of a nightmare. In his dream he could see the young fingers of his right hand, ending in the highly manicured nails of the priesthood that showed he was considered exempt from manual work. As he watched, the green enamel of the nails warped and cracked with age, peeling and falling away from his flesh.

INTERLUDE

THE BIG, BIG PICTURE

It wasn't just the military that wanted the Vo'lach badly. Organized crime, too, wanted their intestines - if they had intestines - wrapped around their native trees. If they had trees.

When you're lying in a pool of your own blood, after a heist has gone sour, with your arms aching from holding two chrome Magnum XII lasers in the faces of the punks who have the drop on you with their gleaming new Vo'lach Old Dependable Autofirers, and you suddenly notice with a precise vision that makes the Buddha nature of the moment kinda shine through that some kindly saint of hoodlums has arranged for the manufacturers to neglect to put holes in their guns' barrels, you may be briefly grateful. When you discover that your Magnums, manufactured under licence, are similarly impaired and that the punks also have baseball bats, you get real mad. Mad and bruised. Pretty soon the Mondesfiore. Von Cataclysm and Red Leopard crime families were just as mad as the military.

Eventually the news reached someone very well organized indeed.

The schoolroom had all the charm and simplicity that money could impart. It looked like it should have had an old fanning couple standing outside it with the man holding a pitchfork. It looked rustic - but it stood on a private terraformed asteroid, and even its gravity was faked up with solar neutrino-graviton converters under the white maple flooring.

'This really won't do at all,' the mathematics tutor said gently, gown flapping like bats' wings. 'You're integrating in twelve dimensions, when the problem in fact can be simply

solved by a Hilbert space transposition. If you think of the electron involved in the transposition as a hole in a universe of negative energy then the zeros cancel out rather nicely.'

'Suck off, Grandpa,' the sailor-suited pupil sneered.

There was the bacon-sizzling sound of a blaster flaring.

Seb O'ran shook his head. That was the fifth this week. He sighed and two muscular men dressed as school monitors dragged the body away. 'Now, Morry,' Seb said. 'That just wasn't needful. Was it?'

The child shrugged, and lowered the smoking novelty-fish blaster. 'I'm sorry, Uncle Seb. These stiffies are driving me crazy, I guess. Did you listen to that one! Everyone knows that a Hilbert space transposition involves an assumed exception to the law of conservation of baryon number.'

Seb nodded. Morry didn't have the family aptitude for maths, whatever his dad had wanted. He was covering up well, but shucks, at least he was as good at crime.

Seb ruffled the boy's hair, 'Don't fret, son. That was a pretty nifty shot.'

'Yeah, it was, wasn't it?'

There was a groan from the corner of the schoolroom.

'Uncle Seb,' one of the two monitors shouted, 'the teacher's still alive.'

'Never,' Seb said, offended. 'A point-blank energy discharge like that. It just ain't possible.'

'He's still groaning.'

'Well, kick him till he shuts up. Morry here shot him dead, and that's good enough for me.'

'Uncle Seb,' Morry piped up.

'Yeah, son?'

'Shut up.'

Seb watched the child's head bob up and down with concentration as he cracked open the service panel at the side of the blaster. Painfully thin in his sailor suit, his brow high and furrowed, he looked the image of his ancestors.

Morry scowled as his fingers deftly stroked the blaster's innards: the *erikson* coil was intact; the inertron sheathing around the artificially stabilized californium emitter was

undamaged. Sometimes the crystal ruptured, he'd read years ago - once - in a trade journal, warping with the fusion discharge. Not this time. He snapped the parts back together, snick, snack, snorum, like someone breaking bones. He did not need to look at what his hands were doing. He had been given the blaster a year ago. It had been a birthday present. Every day since then he had stripped it and polished it, and applied Vo'lach Wonder Lubricant to its few chrome moving parts. Its red piranha shape, translucent as blood, swam in his dreams.

He lined it up. Thumbclicked it to volatilize. On that setting the beam should rip through the alloy walls of the schoolroom like a Lorentz-Fitzgerald tessaractic compaction through Minkowski space, which, he guessed, was pretty damn fast indeed. That had to kill any teacher. Perhaps he didn't have his ancestors' grasp of higher mathematics, but he had a big gun, and if there was any injustice in the universe that ought to count for something. Of course, he knew, in the back of his mind, that if the walls were breached then he and the others would be breathing vacuum in the cometary belt, but what the hell. He'd worked out the angles on the shot to a nicety.

Seb saw the boy aim the blaster and his old weather-beaten face went white. Shit in a bucket! That was some trick shot the kid was planning. He started to shout, knowing that he was dead anyway. 'Boss, no. You're no good at maths!'

He got as far as 'Bos-'

There was a sound like the fried breakfast to end all fried breakfasts. It went on for quite a while.

'Morry.' Seb's voice was soft. 'Shit, kid, you going to hose protons round here like piss round a potty? It just ain't working, and that's a fact.'

Seb's big hands came together around the blaster. "Give it to me. That's right. Don't cry."

'I'm not crying.' Morry bit at his lip. 'I'm thinking. This may be symptomatic. Get on to the military and the low crime

families. Find out if they have been similarly inconvenienced, and offer our services to put things right. While you negotiate, I'll grow a fresh Ninjuroid. One of the new batch, I think.'

Seb's face went whiter still. The Ninjuroids frightened him.

COMMERCE AND VISITATIONS

'I've seen this in use,' Sandra said, balancing the crystal carefully in her palm. 'One ship I was on got an eyes-only package of this stuff. It had vital papers inside together with an atomic-chip clock, with the packaging time beamed to the ship separately on a shielded channel as a check. When the package was opened the clock inside showed the time the message pod was sealed, caught between one tick and the next. It showed there hadn't been any tampering. A tech told me that anything wrapped in futurite doesn't age. That right?'

'To a degree,' Fellows said, scientific exactitude battling with a desire to be cool. 'It depends on the purity of the crystal. Some only retard time flow. One, much darker in colour, in the University Museum on Noun, actually turns time back for anything placed inside it. Unfortunately, it's only large enough to de-age material the size of a fingernail.'

'This must be pretty valuable, then.'

'Oh, indeed. Until the banks of Noun lost the lien on exploration in a computer glitch, no one had a glimmer of where this was coming from. Only the very, very top brass in the bank knew. Hitherto every piece has been hand-picked from the sands here by scouts working for Noun. Now of course, with their legal hold on the system lost, other parties are interested. That's why they had to get an official expedition in quickly. They've a billion good reasons. That piece alone would probably buy your ship.'

Sandra whistled, and Fellows wondered exactly how much of his explanation she had already known. Only the military could afford to use futurite message pods and she certainly had the bearing of a soldier. He pushed at the bridge of his

nose, sheepishly, and caught himself doing it. His world had been poor on resources, and until academic success had paid for surgery on his eyes, he had needed to rely on clumsy spectacles. The gesture had become a habit, particularly at moments of nervousness. Sandra made him nervous.

‘I have persuaded our backers that instead of simply scooping the stuff up, it might be as well to conclude binding treaties with the natives for its acquisition,’ he said to fill the pause.

‘With those reptiles?’

Fellows winced.

Hierosarch Mandir shook Geth out of his dream; he held a clay tablet under Geth’s nose. Geth gasped to see a member of the Select acting as a common clerk. Not just an ordinary member either: Mandir was Tenomi’s successor – everyone knew that.

Hurriedly he read the words on the tablet.

‘Arm, weapons, destruction.’

Mandir smiled at Geth. ‘I think we need to talk about the future.’

‘They aren’t technically reptiles, anyway,’ Fellows muttered, sulkily. ‘They bear their young alive. Then they deposit the placenta and womb in an eggshell, probably originally so the afterbirth wouldn’t attract predators.’

‘Does it hatch?’ Sandra asked slyly, teasing him.

‘Of course not. Besides, they eat it, and grow another womb afterwards.’

‘You’re having me on!’

Fellows scowled nervously. ‘It’s a perfectly sensible adaptation on the evolutionary cusp between mammal and reptile.’ He was perfectly serious. ‘Particularly in a nomadic environment.’

She laughed. ‘Thank you, Mr Obstetrician. I suppose you’ve a degree in biology as well as astrophysics.’

‘Three, actually. Human, humanoid, and silicon-analogue.’

Sandra moved closer, and Fellows felt her breath on the side of his face. 'Well you've got a lot to learn about biology, in my book. Prof.'

He held up his hand to silence her. 'Listen.'

'I don't hear anything.'

'Listen harder.'

A faint pounding reached her ears. A repeated padding, increasing in speed.

Realization hit her. 'Shit, sandstriders.'

'Get down.'

Over the dunes, a wild pack of the beasts that the natives called sandstriders came running, in a cloud of boiling sand. At rest a sandstrider did not look dangerous. The broad pads of their feet made them look like the suction-cup toys children stick to walls. But in flight they were a whirlwind of bone. Used by the natives for desert travel, they were only barely domesticated. In the villages to the south where Fellows had done his preliminary studies - being careful always to travel towards the Spire faster than native-born rumour of his alien form could follow - he had seen an immature sandstrider disembowel a native with one upward slice of the bony spurs on its knees.

Sandra reached for the compact gun at her belt.

Then the storm of beasts was all around them. A glancing blow from the yellow barbed limb of a sandstrider sent Sandra's flame gun spinning out of her hand. The impact of the blow knocked her sideways into the path of another beast. Fellows flung his arm in front of his face to ward off the stinging sand and dived for her. The force of his dive pushed her into a shallow depression in the lee of the dune, and the splayed foot of a sandstrider smashed into the sand where her leg had been a moment before. Fellows was aware of the relative cool of her body through the layers of the sandsuit. It felt wonderful.

A high screaming filled his head, and he wondered briefly if a blood vessel was bursting in his brain. The noise could not be the sandstriders. They had no vocal cords: they

communicated by the coded tempo of their feet on the sand, lie realized something else. The beats had stopped.

He risked a glance up. The wild herd had been surrounded by other sandstriders: tame ones. The thin screeching he had heard had been the hunting cry of the native astride the largest of the saddled sandstriders. Interesting: the modulation on the Canopusi's vocal cords obviously encompassed a wider range than their everyday speech would suggest.

The almost-reptile's face was a mask of curiosity. 'Strangers...' it hissed.

Sandra whipped her head around to look at Malkovitch, her eyes wide with surprise. 'It's speaking our language,' she spluttered.

Malkovitch resisted the temptation to say, 'Not so primitive as all that then,' and settled for whispering, 'I don't understand it either. Perhaps some of the Noun futurite prospectors had contact with the culture, but all my research has been done with sign language and a typically simplified trade dialect.'

In his study room under one of the primary pylons, Mandir opened a great book bound in sandstrider leather and ran his long green nails down the pages. Symbols in one of the Ghost languages - the tongues spoken in visions - adorned the pages.

Twisting his flexible neck, Geth could see the illustration that Mandir was pointing out to him.

It showed figures that walked upright, as did Geth's race, but their skin was not scaled, at least not on first sight. Closer inspection showed that the artist had used beaten sea-mollusc patina to pick out their skin. Unlike Geth's sensible hide, thick and rugose, built to resist sandstorms, their skin appeared to be a thin sheet of creased material like the inner part of a birthing sack. In the illustration the mother-of-pearl showed it as translucent and through it red ink depicted blood far darker than Geth's own. To make up for their thin skin, they wore tapestries cut and tied about

their bodies - so cunningly that but for the colours the fabric might have been taken to be loose scales or thicker folds of tissue.

‘What creatures are these?’ Geth hissed.

‘The last hope of the Priest-King. Sadly, your dream makes me doubt that hope will be fulfilled.’ Mandir’s voice was sad. ‘Although I have of course been certain to send out search parties to ensure that, if any such creatures have arrived, they will reach the Spire safely.’

Geth could feel the Hierosarch’s ambition. He remembered the names that Mandir had acquired among the priests. Mandir the heir apparent, Mandir the Lean, Mandir the Crippled. He wondered if the priests who spoke against him were correct in their appraisal of him. If they were, then let the Gods help anyone who got in his way. He wondered if Mandir’s men had orders to help any strangers they might find, or to kill them.

The slick unzipping of molecules and the tearing of pseudo-canvas woke Bernice from a dream in which she was being refused extreme unction by a wandering friar, on the grounds that she was only an idea in the mind of God. The travelling monk looked suspiciously like Clarence in a surplice.

The orange aliens with the razor-sharp spears were almost a relief. Reptiles on their hind legs just like in the long-distance shots in Fellows’ field studies. The spear tips were futurite shards. Bernice recognized them from Clarence’s descriptions. Pseudocanvas was a complex organic molecule, one of the Hotop Company’s ‘Quasiliving Artefacts™’ but it wasn’t built to cope with different time flows. The tent had just differentially aged to bits.

She realized her face was burning.

‘What do they say about me?’ Mandir asked, conversationally, as he closed the ancient book.

‘Who? I mean, I don’t listen, that is...’ Geth flustered.

‘The common people, the hoi polloi - to use a term from one of the Ghost languages - what do they think of me? Fear not,

I am not worried by flattery. You can speak freely here: my rooms are quite, quite soundproofed.'

Geth did not find that in the least reassuring. Quite a bit of what was said about Mandir the Lean was said about what he did in the privacy of his little quiet stone rooms. All of it lies, no doubt. Still. He muttered a platitude about Mandir having the full confidence of the priesthood, but it was clear that Mandir wasn't really listening to Geth, but only to the rasping of his own disused voice.

'Ah, no matter, let me tell you. They say that I do not worship the Gods, that in fact I curse them for my deformities, for not providing a means in a vision by which my body could be re-formed whole and fetchingly proportioned. They say that I am scheming to overturn the way things are, to abandon the Spire and to grub in the dirt after truth like a farmer or dive for it in the sea like a fisherman. They say this of me, who can neither farm nor fish, of me, who can only hobble a little on my crippled legs.' Mandir's voice was husky with pain and his eyes were large, the nictitating membranes across their surfaces drawn taut and brittle. 'It is envy, my eggling. Odd as it sounds that a poor creature such as I might be envied. The Priest-King is old and ill and I have his favour - consequently I am reviled. It follows with the pure certainty of mathematics that I must be evil.'

His weak eyes glittered. 'I do not believe I even know what evil is. Unless it is our sitting at the feet of the Gods like infants drinking in the thin sour milk they begrudge us, when all around I see fresh berries of knowledge waiting to be plucked.'

Geth listened enthralled. What Mandir was saying was blasphemy, and yet it touched something in him. 'When I was young,' he said cautiously, 'I saw a drop of rain on an *inffun* leaf and through it for a moment the web of a leafgrazer was rendered larger. Ever since my induction into the Priesthood I have searched for how this might be accomplished, to render at will the small large, the distant close. Surely it would be useful in medicine and in art if our

doctors and our scribes could better see their work. I have even...' Geth stared into Mandir's deep eyes. It was melodramatic to think that he was risking his life — Tenomi wore the Priest-King's office lightly and the old laws were little enforced - but he was certainly risking his permanent place around the Spire by speaking so freely.

Mandir held up a hand to silence him.

Had he been too bold? The thought of the shame that an expulsion would bring his family made muscles spasm in his legs - ghost memories of old flight reflexes in his ancestors hardwired into his nervous system.

'You thought that if a piece of translucent stone shaped like a drop of water could be made then perhaps it might serve to show the tiny and the faraway as the liquid did?'

Geth saw that he had pleased Mandir, and he was glad. It was impossible, now, to believe the lies that people had told about the Hierosarch.

Mandir reached for another book.

'This is forbidden, but I think it might interest you. It's in a language that I am informed you know, but some of the words are blanked from the dictionaries. Ask me if you need help.'

Geth looked at the diagrams for a long time.

After a while he asked, 'What is a telescopic sight, Mandir?'

A long way from Canopus IV, on another world, a man was staring at what had been done to his fingernails while a machine waited for him to react.

His fat face was, the Ninjucoid decided, expressing shock. If it wasn't then his stoicism in the face of the First Celestial Persuasion was uncanny. An interrogative routine made it restate its demands, with greater emphasis. 'Simply tell me the vectors of the hyperdrive shunt used by the Vo'lach ship after your arms deal and there will be no necessity to move on to other extremities. I use the term extremities in two senses, you will notice. It's a kind of pun. As a newly activated model, I'm endeavouring to evolve a sophisticated wit as part of my cultural infiltration subroutines. After you

have answered my questions I would be grateful if you could fill in a consumer response questionnaire, detailing whether or not this experience was sufficiently amusing.'

'Then, you'll leave me alone,' the man said.

The Ninjuroid tentatively characterized his voice as whimpering, but the match was imprecise. The interrogation was not going as well as its inbuilt specifications suggested would be the norm.

'Most certainly, on my word as a Version 100.'

'I don't know which way the Vo'lach were phasing. They had some kind of hyperresonance mufflers built into their ship - that's God's own truth.'

The Ninjuroid considered. Internal polygraphs, calibrated against mean and maxima ranges for humanoid stress, hummed a little true-or-false refrain. 'That isn't good enough, Mr Vawn. I'm very much afraid I'm going to have to cut off your little finger.' Additional arms sprouted from the Ninjuroid's shoulders and fastened themselves around Vawn, drawing him towards the unit. 'Not that I am actually afraid, you see,' it continued. 'I say that because I understand that empathization with the pain of another is a human trait that I will need to develop in my mimicry responses. Tell me, did it make you feel that I was in some way more approachable?'

'No, it didn't, you mad metal monster,' Vawn shouted, struggling in vain against the impervious musculature of the Ninjuroid's limbs. 'Let go of me. I've told you the truth.'

'It will avail you nothing to struggle,' the Ninjuroid said in accordance with its 'Stating and Restating the Obvious' subroutine. Apparently the near mindless repetition of certain phrases had a brutalizing effect on humanoid resistance, particularly when linked to a strobing seven-hertz microwave bombardment. Its fingers splayed out in a wash of liquescent metal reforming into whirling brilliant shears. 'This is only one of a hundred thousand interrogative modes available to this unit. The Tower of Silence, the Cleft Stick, the Different Drum, Morton's Fork - all these are still at our disposal. I can tell that you are a man of inhuman resistance,

but I assure you I will break down your reticence before your guards can locate us in this abandoned area.'

There was a noise that was not quite like a carrot being cut.

'This is ridiculous,' Morry fumed, watching the viewscreen on the Ninjucoid interface panel mounted inside the raised lid of his wooden school desk. 'A version 100, one of the new batch: fully conversant with every form of torture, brutality and mayhem listed in the Newgate Calender since 1734 , and what terrifying means has it picked so far to force this dictator to spill a potentially lucrative military secret? Eh, Seb?'

Seb gulped. 'A manicure and full nail replacement with extensions in dusky pink with highlighted edges in rustic bronze.'

'Coupled with?'

'Em, a display of ornamental vegetable rosette carving, using native organic produce. Duodecahedrons mostly.'

'Exactly. Now tell me, as head of my operations staff, and hence the person responsible for the metaprogramming teams who wrote the parameters for the new batch of Ninjucoid assassins: just exactly how is this enforced transvestism and household cookery class supposed to force the truth from anyone?'

'The unit thinks it's torturing him. The neuronc feedback is perfectly clear. It must be being fed false interpretations of the telemetry signals from its sensors. It knows at the autonomic level, as it were, that it's cutting cucumbers, but its pseudoconscious insists that it's cutting fingers off.'

'*I know* that, Mr Oran. I am not a complete imbecile in these matters. The question is why, and what are we going to do about it? No, the question is what are *you* going to do about it. I am rapidly losing patience. Uncle.' Morry reached into his desk and produced a very effective-looking knife, and began pointedly to get chalk dust out from under his fingernails with the tip. 'What the hell is an assassin doing with bodycare and kitchen programs anyway?'

‘We think the former is part of the *femme fatale* infiltration subset.’

‘Really? And the latter?’

‘Ninja tea-ceremony preparation. Young Chi Sung incorporated it in with the martial-arts settings. He’s something of a traditionalist.’

Morry shook his head slowly. ‘I think I’ve got a headache. Uncle. I’m going to go and lie down. Write me a note to excuse me games this afternoon.’

Seb shook his head as Morry toddled off to bed. The family was getting very inbred. His father had never been able to resist a good games session. Oh well, he’d just have to make sure himself that the girls didn’t go home disappointed.

Skin burning in the lash of the acid rain, Bernice flung herself back under the covers, not out of childhood fear but as a temporary barrier against the free skin-stripping treatment that was bucketing in through the sundered tent, and scuffled in the bed for her survival suit. Luckily she’d been on too many expeditions to leave survival gear out of arm’s reach. Now, if only the aliens didn’t decide to hunt Bernice-in-a-blanket, she’d stand some chance of retaining her eyesight.

Outside she did not hear screaming, but in this storm that couldn’t be guaranteed as a good sign.

She’d got one leg in the survival suit when a claw fixed on her arm and a strength far greater than a human’s pulled her out of bed. She clenched her eyes tight shut and waited for the acid to eat through her eyelids. Something cold and slimy slithered across her temples.

Sanok Vawn clutched at his chest. ‘No I can’t bear it, stop it, please stop it.’

The painful racking laughing fit that paralysed him barely left him room to draw breath.

The Ninjuroid’s juggling was extremely funny. It was bad at it, intentionally so, with the badness of a genius for comedy. The quizzical expression on its human-mimicking face, as it

craned upward on its skinny neck vainly seeking the twinkling dumbbells, was alone enough to crack Sanok up. The hollow bong of the dumbbells as they fell, almost in slow motion, on to that gormless face, seemed to sum up the injustice of the human condition with a poignancy that was only emphasized by the fact that twenty minutes ago, when he had woken up to find himself in an out-of-the-way storeroom with one of the universe's most feared assassins, Sanok had nearly wet himself.

He couldn't cope with this. He had been hoping to keep the destination of the Vo'lach ship as a card to play if the rebels were successful, as it seemed all too likely that they might be. Let me off, boys, and I'll tell you where to find the warmongers who really stirred all this trouble up. A slim hope, but he'd survived on lesser chances in the past.

Still they wouldn't know that the secret was already out, would they? And he couldn't stand much more of this.

'It was shielded from an attempt to gauge its course,' he spluttered, 'but I cheated, got the techs to move a dumbsat into its wake; it got pulled into hyperdrive when the Vo'lach left and fell out a light day further on. From the distance it had travelled and the direction we were able to guesstimate the strength and direction of their hyperfield. Assuming, and it's only the first of a chain of big assumptions, that their FTL drive works like ours, then they were heading for the Canopus system.'

Captain Johansen had called her ship the *Second-Best Buy* because it had been. That, however, had been a while ago, and although it was still compact it had been substantially upgraded since her first days as an independent. In orbit round Canopus IV it continually scanned near space for signals that might mean the presence of another ship. There was nothing sinister in this - it was merely one of the standard precautions carried out by the automatic systems of any spacefarer, and might serve the purpose of detecting any distress call quickly enough to respond as well as any more hostile or violent reaction. If the detection equipment

was rather too near the top of the range for a commercial craft with such a self-deprecating name, and, in fact, more redolent of the military shipyards of the Hotop and Spinward Companies, that didn't necessarily mean anything more than that the ship's owner was unusually prudent in her desires to know what was happening around her investment at all times.

With all its neutrino-amplitude-detecting arrays, wide-band EM spectrum radio telescopes, computer-enhanced parallax imagers, and devices for detecting such exotic ship components as quantum-theory-predicted magnetic monopoles, it was a crying shame that the small black ship simply flew past it quite undetected.

The Vo'lach had found another market.

'Excellent.' The Ninjucoid reabsorbed its flaying knives and its acid-sprayers. It was quite surprised that the human was still alive, let alone giggling like that. The base-line data stored in its systems on humanoid vulnerability to painful stimuli were clearly out of whack. Still, it could rely on its instructions: find the Vo'lach traders responsible for the sale of the useless weapons and make an example of them. A big radioactive spreading example.

Sanok Vawn watched it go, its sinister stalking gait spoilt by the still visible juggling dumbbells that were flowing back into its skin. He took a deep breath, and tried to stop his hyperventilation.

When the rebels broke down the door of the storeroom an hour later after their unopposed attack on the Citadel, and found him with perfect nails, surrounded by exquisite and dainty salad, even the hardest-hearted of the revolutionaries realized that he had suffered enough.

After what seemed like an hour of battering and jolts, Bernice had worked a hand up sufficiently to prise the material binding her away from her less favourite eye. She opened it a crack, and saw ground going by below her. The rapid striking of two massive clawed pads raised dust that obscured her view, but twisting her head she could just make out that she

was wrapped in what looked like thick seaweed and slung over the pommel of an elaborate saddle. Looking back, she could see a train of sandstriders, stretching back under the dawn sky. The storm seemed to have stopped, or perhaps they had outrun it while she had been too wrapped up to notice.

The other members of the expedition, minus two on a quick count, had been similarly mummified, or at least there *were* nineteen bundles. It was of course possible that some contained goods stolen from their camp. The green bindings had evidently repelled the rain, or they would have run steaming into the sand by this time. That might mean the natives were not killingly hostile, or it might just mean that they had a sound grasp of the value of alien slaves. Bernice resolved to wait and see. The motion of the sandstrider beneath her was giving her solar plexus a pummelling like a high-pressure workout in three gravities. She didn't need any theoretical worries.

'Seb.' The voice over the intercom interrupted Seb in mid-stroke. The girl holding his golf bag giggled as his reaction made him chip a shot out of the sculpted gravity field and into a low orbit.

'Yes, Morry,' he said hiding his annoyance. 'What do you want?'

'Meet me in the schoolroom. I think I've figured out a way to get the Ninjucoid back on track.'

'I demand that you take me to see someone in authority,' Malkovitch blustered as the natives forced him and Sandra at spearpoint into a tiny stone room standing on its own in the desert. A way station of a kind, Fellows guessed. He had heard of these 'guest rooms', each built around an artesian well along the pilgrim trail to the Spire.

The Canopusi did not seem intimidated, and it wasn't hard to see why. It was over six feet tall and had a big spear. Fellows felt like a particularly belligerent beetle. It shut the thick wooden door of the way station with a no-nonsense

thud, and Fellows heard the hammering of nails from outside. They were locking them in by fastening planks across the door.

‘Interesting,’ Fellows whispered.

‘It does imply preplanning,’ Sandra said. ‘I don’t suppose sandstrider herdsman normally carry timber about with them.’

‘You think they had already selected this way station as a holding pen, and left the wood here in advance?’

‘You did say the natives think the priests can tell the future.’

‘The priests, yes, not common herdsman.’

‘I don’t think these *were* common herdsman.’ Sandra stared into Fellows’ nervous eyes, in such a way that he did not know whether to think it disturbing or erotic. ‘So, what do you fancy doing until they bring someone important here to talk to us?’

Erotic, he decided quickly. She was definitely coming on to him. His nerve, however, failed him. He scraped some lines in the sand. ‘Er, noughts and crosses?’

Sandra scowled. ‘Jeez, you should get out more.’

Fellows looked meaningfully at the door. ‘When I can, I will.’

From the diary of Professor Bernice Summerfield

We picked ourselves out of the rainproof wrappings in a little cobbled tunnel. There was absolutely no sign of our captors; they had apparently scarpered as soon as they had dropped us off. As far as I could see the gang were all there except for Fellows and Captain Johansen, and no one was injured.

Antok, a tiny Goll gamma-male, his withered limbs and emaciated frame supported by silver cyberbraces, was the most shaken, but even he managed a whirring thumbs up as his servomotors took up the strain. Modern tech had detached the Goll gamma-males from their subservient clinging to their wives’ abdomen hair but it was still rare to

see one outside of the marital home even in the nonfundamentalist areas.

I chivied the students together, name-checking a trustarfarian bubblehead here, a solid A student there. As I had suspected from the first, most came from Professor Farouk's department; physics, not archaeology, was clearly the core discipline for this jaunt. The trip out had been arranged quickly and secretly. It wasn't a leisure junket like the Perfecton Expedition, and I felt sure that everyone there was there for a specific nonfrivolous reason. Then I saw Professor Jervis Lochlin and that scuppered that theory. He must have stayed in his cabin all the way here; I couldn't have missed his raw bulky face with its habitual egg-sucking expression. What possible reason could there be to bring the physics department's biggest crank on a serious commercially funded expedition?

Extract ends

The tunnel led two ways but one of them obviously led into the light. Even a group of academics didn't have any trouble picking that one.

They stumbled into the whiteness.

Bernice gave a little gasp of appreciation as she entered the hall. The other members of the expedition were gaping as well. Up above was a mist of white thread girders, and dark honeycombs of shadow. Perspective failed. It was more like looking down the axis of a classical O'Neill orbital colony than anything in planetary architecture. The roof peeled away upward on a graceful curve that didn't stop. Birds could have flown in there. Helicopters could have flown in there. You could have built 1:1 scale models of Saturn 5 rockets in there *and* hung a selection of them from the ceiling. Bernice guessed from Menlove Stokes's tall tales that it wasn't as big in area as the room on the Us world where the entire population of the planet had been able to gather; but it was higher. The roof was kilometres away. They had to be inside the Spire. Inside a buttress perhaps. Bernice

thought that if she squinted she could make out a slight incline to the walls.

Well, well, she thought, didn't any of the races who strode across the early history of the galaxy like colossi ever build anything small?

The scale of the architectonics drove any thoughts of personal danger straight out of the heads of the pure academics, who instantly began trying to fit the interior of the Spire into whatever theory they had concocted in orbit. The expedition's students showed a little more common sense or fatigue. They gathered in an uneasy group like outsiders at a university freshers' ball, near the tunnel arch they had entered by, but the professionals, the actual people who would do the real work of the investigation, split up in an instant and in seconds were seemingly just about as spread out as it was possible to get. Bernice gritted her teeth and set out to do sheepdog duty.

With the myopia of the expert, Elspet Vespatrik, Reader in Symbolic Languages, a scrawny man with hair that in a good light might pass for a poor-quality strobe-wig, had his head a micrometre away from an ornamental pillar and was trying to take a rubbing with his shirt. 'Look at this,' he chortled as Bernice wandered over, nodding to the groups of bemused expedition members. 'Two separate sequences of symbolism in conflict. Thesis and antithesis in a single work of art.'

'No handy drawings, briefly charting the history of the planet with the major high points repeated as leitmotifs in each room?' Bernice asked. The ruins in Antarctica had spoilt some archaeologists, and she wasn't really expecting this to be a similar site, but it was as well to rule out the obvious.

'Sadly no,' Elspet said beaming. He was constitutionally unable to be upset by anything, and on the outward trip to Canopus, Bernice had decided that he was about the most congenial of the staff attached to the expedition. 'But I think we can conclude that the builders were faced with an ongoing conflict of some kind. The symbol of the red circle with the outward arrows is shown occluding or driving out of the

pattern this bluish-coloured, wobbly, asymmetric circle. They could be sects or tribal markings.' He smiled. 'Or planetary orbits. I wonder if there have been any inter-planetary near misses in this world's recent history.'

Bernice snorted. Elspet's imitation of Professor Jervis Lochlin, whose obsessive interest in neo-Velikowskianist theories was well known, was dead on. There was no love lost there.

'Once we've met our hosts and got a linguistics programme up and running, I don't suppose it'll be long before Lochlin has concluded that the absence of world myths about worlds in collision means that the historical trauma of the cataclysm has been blanked out.'

'Maybe,' Bernice said. 'I hope the trade language Fellows had documented on his teaching tapes gives us at least some intro. I'd much rather not be drawing squares in the sand for a month while we try to work from first principles.'

'I doubt that will be necessary,' a voice said. It was harshly accented, but it was perfectly understandable.

Morry was striding round the room declaiming his idea, while Seb and the scientists who would have to put it into effect scuttled after him taking notes.

'Beam me into the Ninjucoid on a hypercable link and give me two-way interaction with my body here. At this end I'll get the real telemetry from the unit and be able to override any local problems at the other until what I see there and what I see here matches.'

'Risky,' Seb mused. 'Bilocalization is a difficult technique even for experienced teleops. How about you go all in and I give you a voiceover?'

'What if the telemetry distort alters your input? I might be building towers out of mashed potato while thinking it's heads and at the same time be thinking you're telling me it's heads when in fact you're telling me it's mashed potato.'

Seb paused. 'Run that by me again, boss?'

'Just arrange it. This is more than a simple contract vengeance kick. Imagine if we could gain access to the

methodology of this sabotage. We could have the only functioning modern army in local space. Isn't that worth a little risk?'

'My name is Tenomi. I am the third Priest-King of that name. I am in charge here. You do speak this language? I'm afraid it's simply the one most associated with the dreams of this meeting, but I do speak forty-nine other Ghost Languages.'

The voice came from a dais in the middle distance, amplified by the acoustics of the room. Bernice guessed that the chair the voice's owner was sitting in had been positioned very carefully to take advantage of that effect. Even with the amplification it was a whisper. Just a very, very loud one. Despite the volume it still had the quaver of an old or sick man.

Jane Steadman, the expedition's acting medical expert, and the ship's doctor on the *Second-Best Buy*, led the rush to investigate.

IN SEARCH OF ANCIENT ASTRONAUTS

‘Are you sure this is wise?’ Elspet’s normally cheerful voice sounded glum as he craned over the lip of the mini-volcano in which Bernice was interred.

Bernice was a good hand’s breadth shorter than a Canopusi, and she was acutely aware that Elspet had a perfect view of the top of her head from his walkway.

‘No, but it’s the best way to find out if the Canopusi’s visions have any basis that can be communicated to a human brain, and you have to admit that Tenomi was pleased that we wanted to try to hear the voices of the Gods direct. Call it PR if you want.’

‘Hmm.’

‘What’s that supposed to mean?’

‘Only that priests usually want to keep God and the common people at one remove; Latin masses and scriptures in metaphor and all the ritual gap between clergy and laity. You don’t think it’s suspicious that they’re trying to get us in here so quickly after First Contact? What if the Spire’s a ginormous religious-fanatic-maker just waiting to pump one hundred per cent conviction into alien minds?’

‘Did Tenomi strike you as a fanatic?’

‘No, he’s a kindly old buffer, and I’m as pleased as the rest of us that Steadman’s treatment seems to be shaking his fever, but I’m still rationally cautious. Remember, we don’t know where Fellows and the captain are. Besides, I’m not convinced by the “we had to bring you here as fast as possible because it was prophesied that we would” explanation. I don’t see why they couldn’t have prophesied asking nicely first.’

‘I agree, that is a bit pat. Almost as if Tenomi thought that someone else might get to us if he didn’t.’

‘But you’re still going to do this anyway.’

‘Of course. OK, most of the Vision Cones have priests in, or, to be strictly accurate, novices because they’ve found that youngsters *resonate* better. But anyone can come on a pilgrimage to the Spire and have a go. Jane’s had her medical sensors set up in here for three days and I’m wired up now to more hyperencephalographs and micro-mind-probes than a suspected criminal. There isn’t anything here that could harm me.’

‘Then I don’t see what you expect to happen. If there isn’t anything that could harm you, I don’t see that there’s going to be anything that can act on you either.’

‘That’s what I want to find out. Wish me luck.’

‘You do realize that in the absence of Fellows, Lochlin only agreed to this experiment because he thinks you’re expendable.’

‘Now that *is* news.’

‘If you’re going to be sarcastic, I hope you get visions of sagging breasts and wrinkles.’

Bernice gritted her teeth. ‘Just get ready to take notes.’

The interior of the cone was hot, but surprisingly comfortable. Its walls were lined with the fleeces of a Canopusi animal farmed in the southlands and carried by sandstrider caravans to the Spire. It was hard to just avoid relaxing too much, switching off into sensory-deprivational doodlings.

Then it was as if a hundred thousand volts had fired half the axons in her brain.

Deprivation one minute, overload the next. Bernice’s last thought was that she guessed the Spire didn’t deal in happy mediums.

Sit up suddenly and if you’re unfit you may for a second experience your vision fading out as the blood rushes away from the optic nerve receptor sites in your brain. Bernice watched with detached interest as the sky faded into a grey void - the mist on the windscreen of the oncoming car just

before the fatal crash. Why are elephants grey? Bernice thought woozily. So they can hide in a bureaucracy.

The future dripped into her mind like a water torture.

The grey featureless sky ruptured with new Heavens and new Earths. Worlds, as Professor Lochlin would say, in Collision.

Overhead a chain of Earths linked its way from horizon to horizon.

Then hands in black gloves, hands the size of solar systems, hands light days across, snapped the chain.

Oh, oh, Bernice thought. The last cosmos to break the chain suffered a run of bad luck. Its wife was mistaken for a hat at a shoe salesmen's convention in Nashville and was badly mauled, and its dog was run over by a driverless juggernaut between Slough and Epsom. This must be what it felt like to go mad.

Then the Earths went away. It happened with the suddenness of a storm brewing but it was accompanied by a shrinking and a dwindling as the shattered chain of worlds twisted and became a gunmetal bulkhead. In that grey dream, Bernice gasped at the grey air.

They say that on a long-inhabited world the odds that a mouthful of air containing molecules that were once part of a famous historical person are nearly a certainty. The air in the dream had never been part of anyone. It was without lung or temperature and somehow lifeless, as if moisture and bacteria alike had been boiled out of it over a hundred thousand years. It was breathable, at a stretch, but it was impossible to imagine that it had been breathed before. At least, not by anything organic.

Each breath of that air was a steel dagger in the lungs. It was not the worst thing about the dream, however. The worst thing was the face behind the glass. The face with its closed eyes.

Then, I decided that if I could prove Singh's Collapsar Conjecture valid, that would be one in the eye for Farouk, the hawk-nosed old fossil, so I started to look for corroboratory

evidence. Professor Owl in Cosmology was kind enough to loan me one of the hyperwave telescope arrays. The mock-attractor survey was stalled pending analysis of the Zul-Copperberg Equations, and I was - as I thought - close to verifying the axionic dark-matter hypothesis that would bolster Singh's Conjecture, but - and this was the killer - the dark-matter source I detected was tied to a planetary mass in our galaxy. Utterly unprecedented and unlooked for. So you can imagine how astonishing it was to be offered backing so easily for a visit to the site,' Fellows burred. 'Just, fantastic. I...'

He noticed that Captain Johansen had dozed off, under the double layer of her and his survival suits. He shivered in his underwear and blessed his cotton socks that he had not decided to go naked under the suit. He was willing to bet that Sandra had. He looked at her sleeping face. Charming, absolutely charming. He could not help being sad that she had gone to sleep. He had not even got to the really exciting part yet.

'I never told you about the tachyons,' he mused softly.

'What,' said Mandir, 'is a "tachyon"? Surely some of what this creature said must be comprehensible.'

'Perhaps he realized your scribes were recording his speech,' Geth ventured.

'Possibly. Arrg, how annoying it is to have netted this runt of the eggbatch and this sleep-ridden she, when Tenomi's men took the God's share of the prize. Does your scholarship in the languages avail us nothing? Come, I must learn what his kind may be telling Tenomi.'

Geth flicked through the laboriously compiled dictionaries of Ghost Languages. 'It is of the language called Greek; from the word for fast, a "fast" thing.'

'Interesting. I wonder what our fascinating guest is so concerned with here, that is so fast. I would have said we were a slow people, a plodding people.' His voice hardened, and a thrill ran down the scales of Geth's back. 'How can we do more than plod when we carry our Gods on our backs like

weights of iron?’ He shook his large, heavy head sorrowfully. ‘I must return to the Spire to discover whether our good High Priest has been helped by these strangers. If so, if there is no threat, then of course we must see that they rejoin their friends.’ He stopped, considering. ‘In fact, I see no threat here at all. Release them and return them to the Spire. We will watch them carefully there. Let them believe that you have freed them from bandits, and henceforth they will tell you all we wish to know. Give me time to ride to the Spire first though. It would not do if I were to be connected with their tardiness.’

In the dream, there was a human face the other side of a transparent window inset into the grey metal, an injured face with its eyes tight shut. Its cheekbones were ragged and bruising mottled its left side.

In the dream there was a grey button.

It was pressed and the face was flung away, receding, flung out into something destructive and black as pitch, flung out to die.

It was the face of Jane Steadman.

The finger on the button had been Bernice’s own.

She had killed the doctor.

Then she was being pulled out of the Vision Cone, and she was crying like a baby.

The High Priest was sitting up in bed drinking a weak infusion of herbs. The fever was going. It had been, he gathered, a matter of luck that he had responded to the drugs in the human’s medicine bag. They were what she called ‘generic medicines’ - smart drugs capable of determining what needed to be done and re-engineering their own molecular structure to accomplish it. The luck consisted in his biology being close enough to something the memory cues in the drug could recognize. He had, however, a headache, and the plump human called Jarvis Lochlin was doing nothing to dispel it. It was half a night since the alien

woman had been pulled out of the meditation pit, but she was still in shock.

'I am worried about the effects on Professor Summerfield,' Lochlin said, unconvincingly. 'She's been unconscious for four hours, but I am more worried about the general effect on morale if this vision of hers were to spread further. I've issued strict instructions to Elspet to destroy his notes and I hope that you'll give me your word that the scribe who made this -' Lochlin passed a clay tablet to Tenomi '- will also, ah, keep mum, as we say. I'm particularly concerned that Jane Steadman doesn't hear about it. Nothing worse than a doctor spending her time worrying about mortality, eh?'

Tenomi looked at the clay tablet. The words on it - 'betrayal', 'death', 'sacrifice', 'Jane' - told him the kind of thing the alien had experienced but not the details. Perhaps they were not his business. It was no wonder that some of the Priesthood flocked to Mandir and his cynical denial of the Gods when their wavering High Priest could not muster greater faith.

'I wish I had not permitted this experiment, Professor Lochlin. I certainly did not intend that your colleague should come to harm. We will do as you ask.' Tenomi tried to think of some comfort it might offer. 'When she awakes, tell her that barely one in twenty of the things we see come to pass in the way we first imagine; and three in every twenty do not happen at all. Only the Gods who built the Spire ever saw with that clarity that makes all things seen into necessary truths, cast into the universe as shapes are cast in metal. Inviolable facts nailed with pins of diamond to the walls of adamantine necessity.'

* * *

The sound of the wooden bars being lifted woke Sandra from her knife-edge sleep. A native was snaking its head and neck around the door. She took in the dozing form of Professor Fellows slumped in his underwear against the wall; he wasn't going to be any help. Sweet, but no help.

So she got the neck between her hands and squeezed.

'Stop,' the reptile choked out, 'I'm here to help you.'

The High Priest's eyes were slowly blinking pools of ebony. Lochlin felt a bead of sweat force itself between his neck and his collar. This sweltering heat, even at night - how could the natives stand it? Perhaps seeing the future taught them stoicism, the doctrine of enduring the incurable. 'I'll tell her that,' he said. The unspoken thought, 'if she recovers', hung between them. 'Only the Gods get it right all the time. She'll appreciate that.'

'Of course the infallibility of the Gods is only one legend.' A crippled Canopusi stood in the doorway of the High Priest's chambers. Even hunched, it was taller than Lochlin. "There are other legends. According to one, the Gods made one prediction so dreadful, so horrible in its implications, that they raced back to Heaven and bolted its doors and windows tight behind themselves so that the future could not enter, but one of the Gods' children had been born a thousand years of the Gods less one day before, and, not wishing to lose the celebration of that natal day, crept down in the night and opened the window of Heaven to let the next day in. Then with that day the future came with all its implications, and the Gods went mad and rent their fineries crying, "Woe and lamentation upon the heads of the Gods who have seen what will befall their children's children, and cannot change it".'

'Mandir represents a necessary antidote to my own temperament in our deliberations,' Tenomi said sharply, 'but I assure you that his story is merely a children's tale. It is not, as you would say, canonical.'

'Only a quaint story,' Mandir said regretfully. 'I find it the one consoling tale in the whole of our literature for it tells us that the Gods are dead and cannot come out of their graves. If they did, then I doubt we would long survive their coming.'

From the diary of Bernice Summerfield

That was a baaaad trip! Don't try this at home kids. If you can't stand the heat stay out of the future. Oh, too late!

If I had a set of neural inputs that weird a century ago, I'd probably be a nonviral schizophrenic by now, but smiling Jane with her little black bag and her mother's little helpers pulled me out of it. I haven't been able to tell her what I saw and my babbling was instantly classified by Lochlin, Elspet tells me, so no harm done. Unless of course it comes true.

What else? Well, while I was out of it, Fellows and Sandra turned up. Rescued by a passing priest called Geth from some sandbandits. Convinced? I nearly converted. I mean, Good Samaritan or what? According to Elspet, who got it from his sources in the Priesthood - drop Elspet on a desert island and pretty soon he'd be sidling up to the coconut trees and whispering, 'I shouldn't tell you this but the beach told me in confidence that Mrs Crab has been seeing an Oyster' - Geth was already based at the Spire so what was he doing out in the wastes in the first place? The Canopusi don't have a tradition of going out to seek visions in the desert. They mainline their visions in the comfort of their own cones.

Something's rotten in the state of Canopus.

Other news. Fellows and the Priest-King have struck some kind of deal, based on Fellows' inspection of the hieroglyphs. I gather it was all he needed to prove a theory that he'd formulated during his initial surveys. The nameless Gods of the Spire have a name now, and it's got a ' in it.

I should have seen it coming.

The Vo'lach have been here. A geological age or so ago, the current bad boys of the interstellar arms trade came and built a vast Future-Viewer on a world of protosentient reptiloids. Why? Who the hell knows?

Wait. It gets worse.

That deal.

It goes like this. We get full archaeological and physics access to the Spire, we get to be told the mysteries, see the holy relics, run all the heathen tests we want to with our Godless equipment - OK, Tenomi is too liberal to talk like that but Elspet tells me he has a glum second in command who sounds like he doesn't approve of aliens - and in return all we have to do is take Tenomi to meet his Gods.

His Gods, the gunrunners.

The inhabitants of an unknown world generally believed to be the most heavily armed planet in conjectured space. The ones that every military and, presumably, every criminal warlord with two ships and a hold full of custard-pie-throwing multi-cannon want to interview with their competitors' nuclear weapons.

I've stopped worrying about my book.

I've started worrying about my skin.

Extract ends

Bernice was sulking, Antok decided. He had been trying to interest her in some of the physics problems of the Spire: how it could stand up under its own weight; why Coriolis force winds didn't blow it over; even why it gave all those odd internal readings that Fellows had been so enthusiastic about in orbit. Antok knew that he wasn't supposed to be talking about those, but he couldn't see that it mattered. It wasn't as if he was telling a male who couldn't hold his tongue.

Bernice was an alpha-female, albeit an alien one, and Antok's whole Goll upbringing made it impossible for him not to trust her. Unfortunately for Bernice, she wasn't really listening, and Goll culture also insisted that gamma-males should be seen and not heard.

So when the reptile Geth came and offered Bernice a tour of the Spire, and her face lit up, Antok was far too diffident to interrupt, or to offer to accompany her.

* * *

Geth stood two hands higher than Bernice - a typically stretched-out Canopusi. Now that she was meeting them on non-spear-waving terms, she had begun to notice differences colouring and crest braiding that she assumed were the products of separated tribal cultures. Geth's skin shaded from a fresh orange at the nape of the neck to a darker blood-orange colour around the throat sac. His crest was pierced with three metal studs that looked like bronze. Their surfaces were carved too finely for Bernice to make out the details -

she hadn't quite nerved herself to ask him to bend down. He wore gold armour that was actually a very thin layer of metallic dye over cloth stretched and moulded with organic glues so that it formed a stiff light shell- There hadn't been a war for centuries; no one used real armour any more.

He was very friendly, and he spoke her language. Wasn't that a killer? Bernice thought. Half the equipment of any xeno-archaeological expedition, particularly in an official First Contact situation, was linguistic-analysis computers, logical-teaching packages, and sticks for drawing pictures in the sand, and this time they were not going to need any of it.

When she asked about it he had been happy to explain. 'I speak seventeen of the languages of the Future, *Ssduss,dfuss* in our tongue, "Ghost Languages" I suppose you would say. Until recently we believed that all the images we dreamt of near the Spire were of the far far future when this world is much changed and many different peoples live here, but Heirosarch Mandir has suggested that some of what we know may have been only from the near future, the past now - for we have collected data since our race discovered the Spire - and hence we might expect that some of the visitors predicted in our dreams would use the languages from our dreams. It was a brilliant deduction, typical of Mandir.'

'Wunderkind is he?'

Geth looked startled. Bernice guessed that German derivations weren't part of his vocabulary.

'He is our greatest thinker.'

'Not Tenomi?' Bernice asked sensing a jockeying for position. Geth sounded like a recent convert to Mandir's cheerleaders.

'Tenomi is a great leader, but he is old,' Geth said seriously. 'Some people think that he lacks the will to alter how things are.'

'And Mandir has that will?'

'I think there is nothing that Mandir would not risk to ensure the happy future of our people,' Geth said simply.

'I'll bet,' Bernice muttered.

In a hollow in the desert, excavated by the jets of the black ship, Mandir met the Negotiator from the arms merchants alone. Some things were too important to be left to any subordinates. It had taken twelve years even to learn of these weapons sellers, and another five to learn how to contact them. The information had been gleaned gradually from the alien prospectors who had come to Mandir's world during his rise in the Priesthood. Slowly, carefully so that no word of their existence reached Tenomi; slowly, carefully so that Canopus never became so dangerous as to deter further prospectors or as to make an invasion the economically favoured method of futurite-hunting, he had arranged for the picking off of a prospector here, a surveyor there. Under painful persuasion they had told him much, and now finally he could deal for the weapons that he had seen in the forbidden texts. He would buy the black heart of the future.

The creature that met him looked far more like a Canopusi than any of the *humans*, but Mandir felt that it might be less like them underneath. Even while they negotiated it was getting more and more lifelike with each moment as if it was completing a puzzle box under its skin; a puzzle box made of Canopusi's bones and muscles.

When the deal was concluded, and Mandir felt free to indulge his curiosity, he asked, 'What kind of being are you?'

'I am not a being. I am a mechanism of contractual negotiation. I have taken this form as a reassurance. I can take others. I sell fine weapons. I arrange payment. Those are my functions.'

'And your masters, who are they?'

'I serve the Vo'lach purpose.'

Mandir's eyes widened. He had been told the phonetic translation of the name of the Gods that the human, Fellows, had construed from the carvings on the Spire. For a second a feeling of awe touched him. Were the Gods really still watching over their people, fulfilling his needs for their greater good? No, he denied the thought. There were no Gods. Not in the sense that Tenomi meant. There were aliens that had left the abomination to corrupt the Canopusi, and

there was this thing. This mechanism. He had to know how the two were connected!

‘What is that purpose?’

He expected to be met with silence or denial. The last thing he expected was that the mechanism would tell him.

Nor when it did, could he at first believe his senses.

Then he did something he had not done for many years. He began to laugh.

The starship scooted through the Canopus system under full drive as a wavefront of virtual particles existing in a folded Minkowski tessaractic compaction - what the scientifically illiterate would call hyperdrive. Morry always spelt out the full physics of it to himself. Even though he knew that he barely understood it, it still made him feel safe.

When it was in that part of fold-space that bore a one-to-one mapping boundary with the orbital approach range of Canopus IV, it ejected the pod. A second later and ten thousand kilometres farther on, the pod completed its deceleration into non-folded space and Morry the Ninjuroid began his shielded dive into the planet’s gravity well. Somewhere on the planet was a Vo’lach merchant; he was going to find it and force it to tell him where its home planet was. He was looking forward to it no end.

‘Tell me,’ Mandir said. ‘If you were to discover that - speaking hypothetically - a group of travellers were endeavouring to locate the homeworld of your masters, what would you do? In pursuit of your noble aim?’

The Canopusi-mechanism tilted its head on one side. It was starting to be quite unnerving how it was picking up Mandir’s own body language. Why, soon he would be staring into his own image in the glass of its face.

‘I would seek to prevent them. Without overstepping other programming parameters implicit in the purpose.’

‘Then prepare yourself, for this is indeed the case.’

‘Very well. My ship, which is an autonomous entity, will convey your order to the Factories. I will stay to prevent this expedition.’

‘Good. I will be very interested to see how you do so, given your other programming parameters, as you call them.’

‘I am uninterested in requiting your curiosity - that is external to the purpose. Take me to the site of the expedition’s preparations. I will do the rest.’

There are no words for some things. A six-foot man is tall, a three-hundred-storey stratoscraper is a wonder of the world. The Spire made immense look small. The central arch made the buttress they had been in before look like a ramshackle outhouse.

‘Thank you,’ Bernice said. ‘I don’t think I could have suffered just getting back into our ship and scooting off to look for the Gods without getting a chance to see this.’

She squinted up into the inner sky. ‘I can just about see the internal structure, an inner cylinder of dark metal that ends in a flat surface about three kilometres up supported by white girders spiralling outward into the walls. But there’s a kind of tracery I can’t make out. What is it?’

Geth smiled. ‘That is where the stairs we have built over the centuries reach the girders and continue upward.’ Bernice looked into his alien face for any hint of irony. ‘They begin over there,’ he added helpfully.

Bernice looked where he was pointing. Between four brightly painted statues, apparently of children’s toys - curious decor choice - wooden steps on an increasingly complex gantry of cantilevered supports ran upward into infinity.

Morry slit the reptile’s throat, and waited while the devices in his hands sampled the creature’s skin at a genetic level and punched the codes into the autosplicers. Minutes later, scales were sprouting over the armature of the Ninjucoid’s biomatrix. In an hour or so he would be utterly indistinguishable from the Canopusi herdsman who had

been unlucky enough to come to see what the light in the sky had been.

This was like a fox strolling into the hen coop with a really convincing chicken suit. Morry couldn't help grinning. The poor saps weren't going to know what hit them. Unless he left a note of course.

The Negotiator considered. In its inorganic mind a sequence of opposing logical imperatives promoted first one methodology and then another. It did not care. It did not think. It had no consciousness. The Vo'lach had never knowingly constructed sentient machines. Inside its head it had the sub-molecular equivalent of punched-card programs and that was all; but it had a lot of them and it could sort them quickly according to complex rules.

It picked one. Identify a target who would be beyond suspicion. Replace them and sabotage the expedition from within. Without a second thought, without even a first one, it started to put its instructions into practice.

'Morry 1 to Morry 2. This is your external update. Watch out for native opposition. I'm afraid you didn't kill that herdsman: you merely gave him a close shave - enough to get a DNA equivalent sample, that's all. He ran off howling in a bit of a lather.

'Well don't get stroppy with me. I am you, after all. I couldn't tell you earlier because we hadn't got the hypercable relay deployed around Canopus IV until a minute ago. Listen, there's worse. We're one step behind. The Vo'lach have been and gone. Their ship did a fast take-off while you were on the way down. I'll just forget you said that, shall I? Although we could do that if we could get the two of us in one place, and we'd been through puberty. What do I suggest you do now? I don't know - use my initiative, can't you? I'm watching. Kill people until you find out something useful; it's always worked before.'

SAILING TO BIZARRUM

From the diary of Bernice Summerfield

It's so much the wrong way round that I ought to be dressing backwards. I'm here heading for what looks likely to be a physically and theologically unpleasant diplomatic mission while Professor Fellows, a non-archaeologist, mind you, gets to stay behind and study the single largest alien artefact I've ever encountered that was not burnt to a frazzle by an inconvenient nova the moment I got near it.

I wouldn't have minded if his arguments hadn't been so spurious. 'So it's still working. So what? So the race that built it is still active. So what? If it's old it's archaeology,' I said, and all he did was look at me with utter pity and say, "Professor Summerfield, a broken pot-shard is archaeology, a fragment of unexplained alloy on a Stone Age world is archaeology. This is physics.' I'm definitely going to have to rewrite that conversation, as soon as I can think of something devastating enough for me to have said.

Extract ends

The *Second-Best Buy* meandered through space, its computers checking and rechecking the ancient star charts that Fellows had taken from the walls of the Spire against thousands of years of stellar deviation, and the rotation of the galaxy's spiral arms. Sergei Guildhall, the ship's navigator, estimated that the trip would take about two weeks, and the great majority of the time would be spent in map-making. A disgruntled New Bosnian émigré, he spent most of the time grumbling to anyone who would listen about the map-matching algorithms, or the time lag in hypercable

messages from his lover back on the refugee station that most people called Big Bulgaria. Eventually, the rest of the crew started playing high-card draw to decide who should sit with him in the navigation suite and make sure he didn't break anything. In the absence of anything more interesting on board, Bernice took the duty slightly more often, even though her skill at cards would have enabled her to avoid it. Guildhall was a muscular, saturnine man, a tad below the ergonomic human male average in height, who maintained a careful traditional spacer's tan: a bronzed face with sharp primitive helmet edges, and a dead white body. Bernice knew full well that the glow was imparted not by the scaring light of strange suns, but by a bank of medically modulated UV lights in his stateroom. He reminded Bernice of a friendly puppy, but one that might grow up into something banned under the Dangerous Alien Pets Act.

'I just don't get what they were thinking of,' he moaned. 'They were space travellers. They must have *looked* at the stars.'

Bernice looked at the overhead displays where the words UNCERTAIN MATCH, ABSOLUTE MAGNITUDE VARIATIONS OUTSIDE SAFE IDENTIFICATION PARAMETERS, and WHAT THE HELL KIND OF STAR IS THAT? were flashing by in pinpricks of computer-modelled light, and nursed her beer. Guildhall was quite a restful companion: he was willing enough to carry on both sides of a conversation.

'I mean, take pulsars, over seven hundred mapped in our galaxy alone, perfect natural beacons. Radio waves, gamma rays, X-rays, you would think sources of at least one of those would be interesting enough to the Vo'lach to merit being on their maps.'

Bernice hesitated, but you didn't get to be a top-rated archaeologist by failing to ask questions just because they might turn out to be blindingly obvious. 'Are there any pulsars marked at all, or is it that they just don't match up with the present galaxy?'

'There are some undeciphered symbols that might represent spinning neutron stars but they're nowhere near

present pulsars, even allowing for any conceivable rate of proper stellar motion and galactic rotation.'

'So, pulsars slow down, don't they?'

Sergei's pale-blue eyes met hers. 'Yes, at about a millionth of a millisecond of rotation a day when their gas toruses are as thick as the one in the Crab Nebula, with the rate of retardation itself slowing down as the gas clouds thin out.'

'How long would it have taken for all the rotating neutron stars the Vo'lach mapped to slow down to the point where they don't send out detectable radio pulses?'

'Give me a moment.'

'Sure, you've got the computer link.'

Sergei's eyes glazed over into idiot-savant introspection. Bernice winced as she imagined the bright fire of figures materializing in his brain. Then, snap, he was back in his right mind, grinning like a bandicoot.

'Ten million years, maybe fifteen top whack. No wonder I've not been getting a valid match. I've been trying to match the current generation of pulsars against last year's crop.' His teeth flashed their dazzling smile. 'Astronomically speaking. The ones we use as beacons would still have been late-sequence stars when the Vo'lach were mapping the galaxy. I'd kiss you if I wasn't worried Mark'd get to hear about it.' His face collapsed back into gloom. 'Not that it helps – if I can't take a short cut matching pulsars, I'm still stuck with tagging every stable red giant and running probability matches on main sequence changes until I get prospective IDs on enough to let the maps merge.'

'What about quasars?' Bernice said curiously. 'Couldn't you map backwards from them? They haven't changed in ten million years.'

'No quasars,' Sergei said flatly. 'First thing I look for. None at all.'

Bernice turned the problem over in her mind that night. She was on day shift, mainly makework so her sleep pattern tallied with the slow rhythms of the shiplights.

The light from the quasars had been travelling for between ten to the power eighteen and ten to the power nineteen years to reach the Milky Way. Next to that even ten million years was a single footstep. It still wasn't clear what quasars were. Opinion in the astrophysics department was presently about equally quadrisected between four radically different theories. It was, however, clear that they had been visible in the same relative positions for at least a billion years. Consequently, they had to have been visible to the Vo'lach. They had travelled in space; they had built a single planet-bound structure beyond any current engineering principle; they were still, apparently, according to myth, encouraging people to shoot each other in half the war zones of the galaxy. Bernice was willing, just, to believe that there might be an explanation that encompassed all those points, but she couldn't see a reason for the quasars not to have been mapped. It was a silly, niggling point, but it stopped her getting any unbroken sleep that night.

Two days passed with only hypercanastra and splitting headaches for company. Three times Bernice got the text of her book out of computer storage and then filed it away again. Why bother when God knew it already? She still hadn't answered that one to her own satisfaction.

On the third day, Sergei got a valid match.

Captain Johansen, with the heavy jocularly that marks out people with no natural sense of humour, decided that they ought to have a party to celebrate. Bernice volunteered to sit in a corner and cut out paper chains from a dumped hard copy of her magnum opus. There was no arguing with some people.

Later, when the party poppers were scuttling over the ship's furniture, their little bioengineered farting noises guaranteeing amusement, at least according to the packet, Bernice picked at her salad and people-watched.

The canteen was the one place on board where you could guarantee that most of the crew was really present. For a start, it was the only room large enough. Even with the

furniture fully retracted most of the ship's staterooms were strictly one-person or two-very-intimate-person rooms. For a second, virtualities might stand watch or, with pressor technology, carry out engineering work; sometimes Bernice suspected that most of them were not even hooked up to real crew members at the other end of the interstitial links, but not even the most hardened hypernet junkie could eat without being really in the same place as the food.

It reminded her of the university refectories back on Dellah, which was depressing. It would be Michael's Mass term there, just after the feast of St Barnabas and all Toads in the Third Revised Protestant Calendar so there would be Peking duck and little sausages with herb fillings, and several varieties of figgy pudding, and the Dean's home brew, and the students would be if anything thinner on the ground than usual. She knew that if she had been there she would have been hating the recently acquired (for 'acquired' read 'invented') ancient traditions that faculty had decided to go in for in order to drum up grants from local worlds that had invested heavily in back-to-basics sociologies. But as it was she would have French-kissed the Dean for a plate of figgy pudding and an expandable silly hat.

She was seriously considering trying to start up a round of drinking games or amusingly vulgar songs when something caught her eye.

Sometimes a person stands out in a crowd. Sometimes there is a sexual attraction, sometimes recognition. Just occasionally the person is a nine-foot-tall alien swathed in red velvet. Tenomi made a honking noise of recognition, and several gleaming lenses peered from his red hood.

When they got closer, Bernice saw that the lenses were biomechanical ocular enhancers, mostly normal to infrared converters. Poking out of the robe's hood like the eyes of an ancient gas mask, they made the alien's features mere surroundings to their cold, single-matt, white circles, but Bernice got the impression of tight, scaled, orange skin and a faint sheen of oils. A nice healthy tangerine flush, she

decided. Not sickly. Good, she was glad to see the old dear looking better.

'I've been having trouble with the ship's atmosphere and lighting. Professor,' Tenomi said. 'These filters help, but I'm sorry I haven't been able to talk to you before. I've bitterly regretted what happened to you in the Vision Cone. Tell an old priest that he is forgiven, please.'

'Think nothing of it.'

'Thank you. I will not.'

He still seemed uneasy, and, although Bernice was only beginning to study Canopusi body language with the help of Geth, who had been included in the expedition supposedly as Tenomi's amanuensis - but, Bernice thought, really as an observer for Mandir - she felt that he was ill at ease.

'What do -?' they said together.

'Ah, after you,' Bernice said.

'No, my dear Professor, you ask first by all means.'

'Well, it's just that you seem a liberal, educated, benevolent sort of Priest-King, not at all a raging fanatic.'

'I will, as I understand you say, take that as a compliment.'

'Right, but what I'm getting at is, if you take that view, why this pilgrimage? What do you actually want to see your Gods for? Let sleeping Gods be, I say.'

Tenomi selected a mixed salad from the table menu, and Bernice noted with amusement that he punched in a calorie limit on the dressing. Honestly, she hadn't expected a Canopusi to have picked up dieting yet. With a hiccup the table produced a selection of raw extraterrestrial vegetables, some of which wouldn't have looked out of place on *That's Life*. Bernice found it hard to avoid a smirk. She managed it, however: being too at home in the past was advantageous to a historian but it could get you some odd looks. Once the university's antique backup plasma generator (a genuine MHD series-eleven with auxiliary ducting) had been on the blink and James McPherson, a technical student in his fourth year, had been volunteered to take a look at it. It had taken Bernice twenty minutes to explain why she had fallen

about laughing when his girlfriend had said, 'Oh, Jim'll fix it.' It was a kind of reverse future shock.

The alien crunched through the vegetables methodically. Eating at a steady rate, with a rasp rasp that didn't sound like teeth. More like vastly enlarged caterpillar sounds. When he had finished, he said, 'I'm sorry if that seemed rude, but I needed to put my thoughts in order. I'm afraid I don't think I can explain until I've asked you my question. As an honest woman and a scholar, tell me: what are the Vo'lach. Are they gods?'

Bernice considered. She didn't want to torpedo anyone's hard-won religious faith, but if she was going to be put on her honour... 'I don't think so,' she said, fiddling with another pancake of crispy duck. 'No one knows much about them. The prevailing theory is that they're a silicon-cyborg race with a pathological fear of life based on organic chemistry. They sell other races weapons, according to myth, to, ah, toughen them up for the table as it were.' Tenomi had tilted his head to one side, a sign of puzzlement, Bernice had gathered. 'That is, to make them stronger opponents for some future war.'

'A war the Vo'lach will fight?'

'That seems the implication.'

The alien emitted a strangulated squeak, and Bernice wondered if a root vegetable had gone down the wrong way, or if she had deeply offended the High Priest. She was, after all, dishing the dirt on his Gods.

'Tell me,' she asked, 'is Fellows only interested in the Spire as a physical artefact?'

'You mean what else am I paying for this trip?'

'I suppose so.'

'I am empowered to make considerable mining concessions in repayment for the university's cooperation in outfitting an expedition to Vo'lach.'

'Well...' Bernice hesitated. 'That's very interesting. We aren't exactly geared up to exploit a world's mineral wealth, you know.'

'Fellows explained that Spin ward Corporations, or Dbuk Industries, or one of the local three-star 'empires' will be

happy to subcontract the actual work. He tells me that Canopus IV is brimming with exotic stabilized elements, starting at the Eka-series and working upwards. Detritus from the construction of the Spire itself, he says.' Tenomi's voice was soft and gentle. 'However, the materials hold no special significance for us, we make use of their cutting properties, but they make the land hard to till with their hardness and where they lie the dreams of the laity are disturbed. Much as I would not have you tell Professor Fellows this, we would have been inclined to pay him to take the stones away if he had not told us their value. We will be rid of a nuisance. Some world or corporation will have a greater treasury or dividend, and with the proceeds we will be able to fund your university's endeavours for a thousand years. All we ask is to learn why the Vo'lach touched our world.'

Bernice sighed. 'I thought they had stuck their metaphorical noses out into the galaxy, found it chock full of things utterly unlike them and immediately went back home in a huff, and killed anything that might one day look like the horrors of everybody else.'

Tenomi rocked with shock. He seemed really disturbed, as if Bernice's words triggered some conflict deep within him. The High Priest seemed a mass of contradictions. On the one hand he had clearly assimilated a good deal of information about the modern galaxy, a disturbing amount almost; on the other, any discussion about possible hostility from the Vo'lach seemed to incapacitate him.

'Is that really what is said of them?'

'I'm afraid so. No one has actually seen their homeworld of course, but according to rumour they exterminated all native life on it with the exception of themselves.' She patted an orange clawed hand, nervously. 'I suppose the animals and plants could all have suffered a fatal accident involving a particularly poor summer.'

Tenomi made an eructating noise deep in his throat. Bernice saw that his flesh was turning a very strange shade of orange indeed. Almost purple. Under the scarlet of his

gown, his limbs shook. Geth, who had come up, silently Bernice noted, during the conversation, caught the High Priest as he fell.

Bernice was already yelling for Doctor Steadman.

Doctor Steadman pressed her fingers carefully into Tenomi's side, and whistled softly under her breath. 'Well, you were right. He was poisoned.' The ship's doctor was a short brunette woman approximately fifty years of age, which with modern medicine meant anything between thirty and seventy. Since Bernice had last seen the doctor in the vision, in which Bernice had ejected her from an airlock, she was finding her company a bit fraught, but she seemed a fine doctor, if a surprisingly unexcitable one.

'It'll be all right?'

'Oh, it'll be fine. It's the wider implications I'm worried about. I just don't see why anyone would use poison.'

Bernice hesitated. 'If I said to kill him, would I be hot or cold?'

Jane smiled. 'That's not what I mean. Listen - Geth will confirm this - when I was treating Tenomi I had to learn Canopusi biology from the bottom up and the inside out. OK, I just pumped him full of generic medicine, but I had to know that it wouldn't kill him first.'

'So why will he be all right? You haven't done anything.' Bernice felt like the Panic Fairy in the World of Stolid People.

'Don't need to. The Canopusi have four stomachs of various sizes, each carefully evolved to break down particular foods, practically chemical laboratories in themselves. Canopus IV must have been a hard world to evolve on. The stomachs are valved and can be cut off from the rest of the body by spasming their sphincter muscles if an irritant reaches them. Any stomach can operate independently from the others. The stomach that has been poisoned will cyst itself off, collapse into a hard nodule and be ejected from the body by a secondary route; in a week he'll have grown a new stomach. We'll be able to dissect the one that gets ejected to see what's caused this. I was feeling for the lump of the collapsed

stomach. I don't even need to run a scan. He'll be all right in an hour or so. What I don't understand is that anyone knowing enough about their biology to know how to poison them would have to know that it simply wouldn't work.' Jane looked seriously at Bernice. 'That doesn't mean I don't think we should worry. If it was a fission grenade in the cargo bay we'd all be a loosely associated cloud of carbon, hydrogen, nitrogen and oxygen by now; but there's no immediate danger to Tenomi from the poison.'

Twenty minutes later (there was no nice way to describe this) a secondary anus opened and deposited a hard mass - not unlike a Brussels sprout, Bernice thought.

Jane ran it through an analyser.

'Colchicine.'

'What?' Bernice asked, feeling the Dr Watson medal for sidekicks getting nearer and nearer to her lapel.

'It's an alkaloid with antimitotic properties. It's been about four hundred years since it's had any use in human medicine: gout, neoplastic deformation, and familial Mediterranean fever all have easier treatments these days, but it's still used in preference to expensive synthetics as an experimental tool in the study of cell division. I'll check the ship's biological stores.'

Bernice resisted the temptation to prod the Brussels sprout with her finger. After all, she knew where it had been. 'What does it do exactly?'

'In humans, it causes nausea, vomiting, abdominal pain, damage to the GI tract, liver and kidneys, bone-marrow suppression, and death, at fairly high dosages.'

'That sounds like a poisoning to me.'

'Yes, but just a peculiarly futile one. As I said, he's going to be fine.'

Tenomi stirred on the couch. 'And he is most grateful, Doctor.'

Doctor Steadman blushed. 'I'm sorry, Tenomi. I didn't mean to talk, as if you weren't here. I thought you were still in *cSinthus*.' Jane turned slightly to direct her next words as an aside to Bernice. 'That's the Canopusi term for a semi-

unconscious, nerve-blocked state entered into while a stomach is ejected. There is always some trace toxicity.' She looked back at Tenomi. 'If you don't mind I think you should stay here for a while, and with your permission I'll run some tests. Get a base-line set of readings for your physiognomy since we entered hyperdrive; check that Canopusi don't suffer from Real Space Deprivation Syndrome; generally give you a ninety-light-year service.'

'Certainly, I am at your disposal, but I wonder: could I simply rest a while first? Then you may wheel up your scanners, and click away to your heart's content. Until then I will merely thank you again. You have saved my life.'

'Not at all. Your secondary stomach isolated itself and kept the poison away from the bloodstream. You should be thanking evolution. I mean your Gods.'

Tenomi smiled his disconcertingly sweet smile. 'Just because I believe in the Gods does not mean I disbelieve in the evidence of my own eyes or the reasoning of my own and other minds. I am not offended that you have your beliefs. I ask only that you examine them logically and to destruction, and I will do the same with mine. In that way we will find truth.'

Jane smiled back. 'I will, I promise. Now you're quite right: you're going to need some sleep. Biology, whoever is responsible for it, has been made to need rest, and I'm trusting you to be sensible and get some. Everyone else can come with me and leave you to it. There won't be any visiting time until this evening. Chop chop, everyone.'

Outside the medical rooms, outside of Tenomi's hearing, Jane took Bernice aside, waving the others on. Bernice noted that Geth went reluctantly. She was going to have to have words with that young quasi-reptile.

She steeled herself to deal with someone who might soon be dead by her hand.

'I think we have a killer on board,' Jane said. 'Someone lacking familiarity with Canopusi digestion, which I guess

leaves Geth out, although he might not be medically trained. I'm worried about what might happen next.'

'What do you suggest?' Bernice asked.

'That we see Captain Johansen together, and get her to turn the ship around. Once back on Canopus we can send another party to Vo'lach Prime now we know where it is, one that doesn't contain anyone currently on this ship.' Jane's eyes were worried, sympathetic. She can't bear to see anyone suffer, Bernice thought, and then wondered why she should feel that such a quality was somehow dangerous. Wasn't it only to be expected in a doctor?

I AM THE ASSASSIN

Bernice had always felt at a disadvantage in near-zero gravity - many academics did. It was no doubt a question of gravity equalling gravitas. Keeping your feet under the plastic rungs, or on the magnetic strip, or Velcroed to the nano-hooks of the plush-pile carpeting of the cheaper shuttles, had never had the proverbial force of keeping your feet on the ground. She suspected that Johansen knew that as well as she did, and had chosen to opt to exclude the bridge area from the ship's microgravity field solely to discourage visits from non-crew members.

Johansen hovered in midair, unfettered by any restraints, while Bernice, her feet wedged under the iron rungs, felt the stomach-twitching discomfort that came from trying to talk to someone sixty degrees out of synchronization with her subjective up and down.

'So,' Captain Johansen said sternly, 'exactly when were you going to tell me that Tenomi had been poisoned?'

'There just didn't seem to be any point telling you until he was coming round,' Bernice said testily. She felt rather hard done by that she was being berated for not taking the poisoning seriously. Johansen had not just had to put up with Jane Steadman's 'Oh, he's only poisoned - try not to worry' advice. Bernice could really have done with the doctor's support now.

'Where is he now?' the captain asked.

'In the medical unit.'

'Alone?'

'Well yes, he's resting.'

‘I can’t believe that Jane let you leave someone unguarded who had just been the victim of an attempted poisoning. Where is she?’

‘She came up with me to speak to you, but there was a call for her from forward ops on the way here and she stopped off below.’

Captain Johansen scowled. ‘I’ll get the story from her. You get back and watch Tenomi. Day and night if need be. He’s the key to successful commercial exploitation of Canopus IV, and more importantly a guest on my ship. I will not have him killed. Is that clear?’

Bernice looked at the captain. That was the first sensible thing she had known her to say. ‘I’ll head back there now.’

‘Good idea. Forget day and night, though. I was only sounding off. I’ll get David to take a shift when he’s done with the mess duties.’

Bernice smiled to herself as she hurried out. David Foreman, the ship’s landing-shuttle pilot, had volunteered to try to coax better food out of the ship’s processing machinery, until his flying skills were needed. He had a theory that he could get it to produce passable muffins but so far all that had come out was a thick liquid toffee slurry. Guard duty for him had to be safer for everyone’s teeth than giving him time to tinker with the autochefs. That thought and getting back to common gravity made her almost cheerful, despite the attack on Tenomi. Perhaps she should feel guilty about that, but she couldn’t manage it. Suspect it might be, but something in her needed action, excitement, maybe even danger. She just hoped that she wasn’t going to get too much of it this time.

In the medical room, a figure swathed in darkness made his way to the controls to the room’s environmental systems. From here a sufficiently skilful programmer could set the room to have the characteristics of a hundred base-line atmospheres. It was a low-tech medical room, typical of a second-hand ship or a military one where the crew were grunts, cheap and replaceable, so the controls could not vary the atmosphere pressure much beyond half to three times

Earth maximum or handle really corrosive gases. But it was flexible enough for what the figure had in mind. He could not have the doctor reviewing those medical scans in greater detail, lest she learn the truth about her patient's condition.

He intended to set a bomb. Not an explosive one, but a computer bomb: a set of instructions keyed to activate when particular criteria were met. Then softly and silently he stole away. When the next living person entered the medical lab, it would seal shut and flush the oxygenated atmosphere out into space, replacing it with inert gases. An inert-gas atmosphere would suffocate anyone, human or Canopusi.

A voice inside the figure's head whispered, 'Well done; nothing out of the ordinary there, just solid straightforward violence.' The figure's orange-clawed hands punched the last codes into the device. The artificial skin he had grown from the Canopusi's DNA after he had killed him moved just as smoothly as living tissue. Indeed, to all intents and purposes it was alive. It was only what was under it that was dead. Still, the pretence had as yet fooled all observers; and, now the donor's memory proteins had been finally incorporated into his available data, there was no reason why the charade should not continue to be successful, provided the doctor did not discover too much.

'I think we should abandon this voyage,' Doctor Steadman said simply, addressing the tense muscles of Captain Johansen's back.

'Really?' Sandra asked without turning round, seemingly intent on the star field visible through the forward viewers. It was of course a computer construct. Visible light does not travel through FTL space. When she thought that she had let the doctor sweat long enough she twisted at the waist and flipped round letting her momentum complete the turn. It looked impossible, like a cat landing on its feet, but it was simply a matter of conservation of momentum. In the near-zero-g bubble of the Captain's Room, drawing an arm in suddenly to the body could send an unskilled spacer into a tumbling roll. Sandra Johansen was very skilled.

Jane Steadman displayed no surprise at all, but then, this wasn't the first time she had shown off in front of the doctor.

'Why?' she continued. 'I've just had old Summerfield in here parroting your no-need-to-worry placebos. Thanks very much for the second-hand report, by the way. Was it too much effort to buzz me? And what the hell do you mean by leaving Tenomi unguarded?'

'I didn't think you would want an attack on an alien dignitary announced over the intercom, and you can hardly blame me for Bernice getting here first. I didn't make Antok wedge his gravharness behind a waste-facility door. This ship wasn't built for multispecies occupancy. And as for guards, what if I'd picked the poisoner? I thought Tenomi was just as safe alone. You know the medical lab has the best security locks on board.'

Sandra shrugged, and the muscular reactions lifted her a fraction.

'What really happened, Jane? Why are you scared? It isn't like you to want to give up on a mission. Don't you remember the asteroid-mine runs off Honspar when the Tenairium Cartels were on one hemisphere of us, and the Anti-Smuggling Corp on the other, and the damn von Neumann worms in the hold were eating the ship out from under us?'

'No I don't. Not in those terms anyway. I remember being scared and overworked and cramped into old, smelly, third-rate space gear. I remember being taken for granted. I don't remember having a killer on board.'

'I thought you told Bernice that Tenomi wasn't in any danger.'

'Not this time, no, if you count shitting out a stomach and having my hands up to my elbows in his pseudo-solar-plexus as a friendly massage. I guess I could advertise it as an advanced weight-loss programme. I'd probably even get some takers among the more perverted royals on Divine Right.'

'But?'

'Oh yes, the but. But what next? That's the but. No amount of fancy internal redundancy will protect our guest from having a blaster pushed up his skinny rear. Or what about a

big bomb? Fizz pop! and suddenly we're traversing hyperspace without a hull. I know that there's a big prize for anyone who can verify the conjectural basis of hyperdrive, but I don't want to experiment in person.'

'Calm down. You're overwrought.'

'No, I'm merely cautious. Let's go back, pick up a less high-up cleric, someone that isn't at the top of the tree waiting for the monkeys below to work out which branches to snap. And, while we're there, a bigger ship wouldn't go amiss, preferably one with high-tech weapons. We're flying into nothing we've ever seen before, Sandra, and yes you could say I'm scared. You can say worse than that if you want. Just don't let your desire to be braver than the shit-scared ship's doctor blind you to how dumb you're being.'

'Wait.' Sandra began wondering if she had alienated her old friend irretrievably, but before she could formulate an apology, before she was even sure she wanted to apologize, Jane was gone.

Bernice was halfway to the medical lab when Geth, hurrying in the opposite direction, collided with her and knocked her down. He was still wearing the sculpted ceremonial body armour that he had brought aboard with him, and Bernice had almost felt her ribs crack. This was the genuine article – real dense metal.

'Look where you're going, can't you?' they both said, practically at once.

Bernice glared at the reptile. 'What's up with you? Where's the fire?'

'There's a fire?' Geth looked around wildly. 'Are these ships safe? How can we flee from fire in these metal walls?'

The archaeologist felt a twinge of sympathy. She had felt out of her element on the bridge because she didn't have the raw space experience of the captain, but Geth was even worse off. He had been uprooted from his world and torn at unbelievable velocities through space heading not only for another world - although that was surely dislocating enough for anyone who hadn't spent a decade training for Apollo, or

a childhood watching the freighters come and go in the sky from distant planets with skies like gems - but for a different spiritual state. He was heading for the Gods, and, Bernice thought, he looked rationally upset about the whole idea. It was surprising really that Tenomi had taken it so well, unless it had been the shock of travel and not the slightly different components of ship's air that had confined him to his cabin for so long. She noticed that Geth had never shown any allergic symptoms.

'It's just an expression,' she said. 'A proverbial saying. Surely you must have some. Holy truth passed down from visions?'

'Ah yes. I see. You say "Where is the fire?" meaning "What is my urgency?" just as I might say "Whose sandstrider is loose in the kraal?" or "What *susgrakk* had hold of my grandfather's tail?"'

'Yes, and?'

'And?'

'And where is the fire?'

'I have just passed the medical lab. Tenomi is not there. I am hurrying to check his quarters in case he is still dazed from the loss of tissue.'

'You went into the lab?'

'No, I merely looked through the glass in the doors, but there was no sign of him.'

'You check his room, I'll take a proper look round the lab. He might have fallen and been out of sight from the door.'

'Perhaps you should page the doctor, let her investigate. What if he is there and in need of treatment?'

'She's up in forward ops, or was. You try to get her on the intercom, I'll go on ahead.'

Bernice didn't wait for Geth's protests. He seemed indecisive, surrounded by things outside his grasp, but she couldn't afford to feel like that: she needed to know. She needed to know who was trying to kill Tenomi. She needed to know where he was. She started to run.

From the memoirs of Professor Malkovitch Fellows

Ten days after our landing (hereinafter 10 AOL) on Canopus IV we separated the expedition into two units: one travelling with native auxiliaries, to wit the Priest-King Tenomi III and his secretary Geth Kathath, and using the transport ship *Second-Best Buy* as a resource, would use the inscribed astronomical evidence which we had recovered from the lower exterior hieroglyphic records in an attempt to discover the home planet of the Spire's builders. The remainder - which, I may say, I considered to be the core of the expedition proper - would begin the physical mapping and analysis of the Spire itself with particular focus on determining the reasons for the anomalous dark matter, gravitic and temporal readings associated with the structure.

Naturally I was deeply saddened to be separated from the estimable company of Professor Bernice Summerfield, whose ebullient personality had so altered the morale of the entire expedition during the long trip to Canopus IV, but I accepted that her skills would be best deployed a long way away from the drab domain of pure physics.

Extract ends

Professor Fellows was feeling uncharacteristically cheerful. It was eight days now since the *Second-Best Buy* had left. Eight days without Summerfield! And everything was going splendidly - just as he had known it would as soon as she was off planet and out of his hair. Oh, she had whined, she had wheedled, she had batted her eyelashes like a Laviscian trollop, and she had threatened him with a knuckle sandwich, but she had gone.

A shame, true, that Sandra had to go with her, Fellows thought, but then if a chap could not exercise monastic restraint in what was basically, however alien, a monastery, then he clearly was no better than the beasts that perish. Besides, Sandra *was* in charge of the ship, and would doubtless be needed to stop Summerfield rubbing the High Priest up the wrong way.

Everything else was ticking along well.

Danson and Vane had set up telemetric and tetrahertz scanners in the main body of the Spire and were conducting tests. So far all the results were within the parameters predicted by theory. There was definite gravitic vectorization taking place along the axis of the main cylinder. That fitted the dark-matter predictions, with only the minimum of fudging.

Despite Malkovitch's insistence that the team concentrate on hard fact, some of the students were claiming to have made exciting discoveries in the strata below the Spire during soundings to determine the extent of any subterranean structure. There were primitive fossilized Canopusi remains in the fossil record that had built up around the Spire foundation. Hardly any wonder, the students said, that the indigens took the structure as evidence for God. It was far more spectacular than a volcano or a periodic recurrence of locusts.

Malkovitch had testily ordered them back to the contemporary work. The irreverence of their comments had grated on his childhood faith; besides he had not rid the expedition of one unnecessary archaeologist to have another generation spring up underfoot.

'It's grossly unfair,' Delcorii snivelled to a barely listening Elspet. 'Those remains stand in relation to the existing Canopusi as Fendleman's Man does to modern *Homo sapiens*. We could have had two, maybe three, papers from that, and sell the expedition records on a multidisciplinary front.'

Elspet looked up. 'What? "A partial solution to the Dark Matter problem, together with some notes on the evolutionary development of a reptile/mammal hybridoid"? Sell well among biologically minded astrophysicists.'

Delcorii blinked her violet eye at him, and uttered a shrill Centauri whistle of disapproval.

'I didn't expect such a reactionary narrow response from you. Surely you must feel equally aggrieved at Fellows' disregard for your linguistic researches.'

‘Look around!’ Elspet said urgently. ‘What do you see?’

‘Monastic quarters, very like those the Canopusi made available to me.’

‘And?’

‘Dirt?’

‘Any number of cultural and totemic reference points!’

‘Oh, those.’

‘Yes those. You don’t see them, Fellows doesn’t see them, but *I’m* trying to.’ Elspet sighed. ‘Malkovitch isn’t a bad man, not even a bad scientist, but he knows just enough about everything to think he knows it all, and outside his own discipline that can be dangerous. Except that this is a physics expedition paid for with the prospect of physical exports. From his viewpoint he’s quite right to ignore a deeper translation of the native languages if he can sidestep the problem by relying on their visionary knowledge. He’s also right to leave the bodies for proper archaeologists.’

‘If you’re going to be insulting, I’ll leave.’

From the memoirs of Professor Malkovitch Fellows

By 25 AOL, with guidance from the native priesthood, we began a controlled ascent into the upper interior of the Spire. It was necessary to construct three encampments with provisions and tents on the narrow wooden stairs and ledges that spiral around the inner wall of the Spire before contacting the support structure of the inner cylinder. A diagram of the Spire’s architecture may be found in Annexe A, but it may be simplified as follows:

Imagine a long cylinder buried in the earth - in fact the Spire consists of more than one cylinder and is externally buttressed and tapers to a point, but for the purposes of this description a cylinder will suffice. From the inner wall of the cylinder stiff wires extend into the centre supporting another smaller cylinder which ends three-quarters of the way down from the top. Now imagine that someone had taken a pen and drawn a line spiralling down from the lowest of the wires

to the floor of the outer cylinder. That line is the staircase we climbed.

The climb itself revealed further detail impossible to resolve from ground level. Firstly, the material of the Spire, both the inner and outer cylinders, is not solid but a kind of trellis or latticework constructed mainly out of carefully aligned futurite crystals.

The entirely predictable effects of something this large on the macro-weather patterns in its immediate vicinity meant that constant thunderstorms rolled outside the outer wall and cast shadows through this lattice on to the interior cylinder. The effect was almost hypnotic.

A suggestion made by Doctor Jabez Peterson that the flickering may have acted as a Ginsbergian dream machine strobing at Canopusi hypnotic frequencies and that it might have contributed to religious visions in the monks will be published separately from the results of this expedition, which are concerned with the physical structure of the Spire and the effects of its operation.

Professor Lochlin, whose contribution to the expedition's finances has already been praised in my introduction, and whose other personal contributions I record in the dedication to this volume of my memoirs, was sadly unable to accompany us for the whole of the ascent due to ill health.

Extract ends

Malkovitch felt a stab of annoyance. It was not that he could not feel sympathy for sufferers from irrational fears. Even though he had no fear of heights himself, he nevertheless understood that such a fear could not be conquered with the medical equipment at hand. The annoyance came from the fact that Professor Lochlin had come this far without expressing any discomfort whatsoever and that now his nauseating breakdown was holding up the crossing into the inner cylinder.

From a letter written by Professor Lochlin (unsent)

I was able to persuade a priest to take me down. I was physically and psychically unable to cross into the interior of the Spire.

It was not the height.

In my earlier letters I have described the Spire in detail but I may not have stressed that actually the space between the inner cylinder and the walls is often slight. The cylinders are not precisely regular and bulge in places, leading to narrower gaps of which this was the first within reach of the Canopusi construct. I should not let the scale of the Spire detract from the skill with which the natives have woven this framework of steps up the walls. We were, I would judge, at least six times higher than the great pyramid of Cheops, and whereas Egypt - cretins like von Daniken to the contrary - actually exported wood and had no shortage for rollers, all of the materials for these stairs must have been hauled across the desert from the south. A colossal undertaking. My admiration for the natives grows and grows.

I had therefore no fear that they would not have secured the plank firmly; nor, despite the size of the Spire and the gaps in its walls, is there any wind or weather within the building. How this is achieved is another mystery; I mention it merely to defend myself against the obvious cries that I should have proceeded.

My reason for returning to the planetary surface was simply this. For two nights before, I dreamt of falling from that very plank. Falling and dying. If anyone tells you that if you hit the ground at the end of a falling dream you die in real life, don't believe them; it isn't true. However, it is exceedingly unpleasant.

I suggest you get another agent here as soon as possible if you wish detailed reports on the upper Spire aside from what I will be able to obtain from the diligent if unimaginative Fellows.

I remain yours faithfully

Professor Jervis Lochlin
Knowledge Above All.

Extract ends

Professor Fellows stepped off the plank. He had elected to come last. So he stepped off not into majestic silence but into a gabbling set of scholarly conversations as the new data about the interior of the Spire was woven into a dozen competing theories.

‘From the size of these stairs, which are part of the original structure, I’d judge that the Vo’lach would be larger than a man and wider,’ Vane was saying.

‘That fits in with the statues on the plain below,’ Elspet agreed. He glanced down the side of the plank at the almost invisible dots of primary colour that were the four statues.

‘You don’t still maintain those are Vo’lach?’ Danson said sarcastically. ‘Giant cuddly aliens don’t fit in with the Evil Arms Merchants of contemporary galactic myth, nor yet are they evidently obviously godlike.’

‘The Canopusi say those are Vo’lach.’ Elspet shrugged. ‘I’m inclined to take them at their word.’

‘Come on, come on. gentlemen, ladies,’ Fellows bustled. ‘We’ve been through these discussions already. Once we have hard facts from scans of the upper Spire we’ll then be able to start answering questions rather than asking them.’ He pushed them forward with flapping motions of his hands as if they were children. Really, sometimes he thought he was the only member of the expedition left on the planet with any responsibility at all.

The statues were a common over-meal discussion point simply because they were so odd that practically any theory seemed to find some point of validity in respect of their podgy childlike innocence.

Duquincy, who considered himself a fair amateur biologist, thought that the statues were Canopusi attempts to depict the forces of nature - earth, air, fire, water - as nothing that vividly coloured would stand a chance in evolutionary terms.

Peterson thought the four statues indicated that the Vo'lach were quadra-sexual, and that the differently patterned horns or antennae might be sexual displays if not actual sex organs.

Lochlin took the middle ground. He thought the statues were authentic Vo'lach artefacts brought to the base of the stairway after its construction by the Canopusi, and suggested that they indicate that the Vo'lach had entered a period of leisure and personalized genetic modification before they came to Canopus IV. In so far as he bothered with this nonsense, Fellows was inclined to Lochlin's theory. Jervis could be quite sensible provided he was kept away from catastrophic astrophysics; and his money was a very welcome addition to the expedition budget, even if his fear of heights had lost them some time.

From the memoirs of Professor Malkovitch Fellows

28 AOL. I have had, I fear, to divert my narrative from the dry factual style in which all good scientific matters should be conducted. Like Archimedes discovering a use for the displacement of water, I was, and am, forced to cry Eureka!

The interior of the inner Spire was not normal matter. The importance of this cannot be made clear enough. Even the odd material of its exterior is in essence composed of normal materials that have been strengthened. The interior is quite different.

While my readings - from a distance, from orbit and from within the Spire itself - had prepared me to discover a source of dark matter and hence a solution to its constitution, I was, I must confess, ill prepared for the visual spectacle we discovered.

The core of the Spire was a pillar of fire.

The mean particle count derived from a twenty-four-hour study can be found in Annexe B. To summarize, we discovered that the 'firestorm' begins at the apex of the Spire and disappears again within a nanometre of the apparent

floor of the inner cylinder. The colour of the fire ranged from purple to a deep blue, not unlike Cherenkov radiation.

After that study was concluded we were in a position to slate firmly that either the particle stream was composed of antimatter - in which case the Spire, no matter what its construction, should have been blown to bits the moment the phenomenon began - or, as I had suspected from the first strange readings, it was composed of ordinary matter travelling back in time at speeds in excess of that of light.

The natives offered to show me a ritual which had been carried out over generations to venerate the flame. Despite my misgivings at mixing anthropology and hard science, I agreed to accompany them higher.

Extract ends

Bernice pushed open the door of the medical lab, and halted suddenly. From Geth's account she had expected to find the rooms deserted but Dr Steadman was already there nonchalantly mixing something in a beaker. Behind her the door sealed shut, but Bernice, her eyes on Jane's flushed face, did not notice the mechanisms splicing it airtight. There was no sign of Tenomi - Geth had been right about that.

'Nostrum?' Bernice asked.

'Bloody Mary,' Jane said sourly. 'I don't suppose you've seen Tenomi. I told him to rest, but he was gone when I got back. No one seems to want to listen to me on this ship.'

Bernice coughed nervously. The room seemed hot and close. Her loose ship's tunic and slacks were heavy on her limbs, heavy as the gold armour that the young lizard had been wearing. What was his name? A thundering headache was gathering behind her eyes, but oddly, distantly, she knew it did not matter.

As she fell she had time to wonder only one thing: why was Dr Steadman just standing there watching as if she was a specimen rather than a patient?

A thick grey blanket of fog like a cloud in her brain shut out the medical lights, and she stopped breathing.

DOCTOR AT LARGE

Dr Steadman stepped calmly over Bernice's body and considered the door. It was molecularly locked, the edges atomically joined to the ship's walls. Plague alerts should have been sounding - doubtless they had been shorted out to prevent help arriving.

Under the artificial skin of the ship's surgeon, the Negotiator froze as conflicting commands locked in its circuitry. Its primary goals, like those of all Vo'lach machinery, were sacrosanct and in its logical pathways actions directly connected to those goals were priority-flagged; but, while it could not be said to consider, it had some leeway in areas of non-priority tasks.

It could not be said to think, but it could resolve difficulties.

One method of doing so would be to wait. Bernice would die. Then there would be no need to decide whether or not to save her. It rejected that. If Bernice died it would still either have to leave the room or stay. If it stayed it would be discovered in a room with no oxygen with a dead human. It did not need to think to calculate that being discovered in such circumstances would badly damage its credibility as an infiltrator. If it left and Bernice was dead, then the mystery of the death would prompt investigation.

It acted.

* * *

From the memoirs of Professor Malkovitch Fellows

31 AOL. After the discoveries we had made in the Spire, some of the expedition members seemed to find it almost hard to voluntarily descend to ground level, but as I rightly argued

the automatic monitors we had placed in the Upper Spire would be able to gather objective information.

As it was, our descent took us not to a place where an ordered codification of our various observations could be compiled but into a maelstrom, or perhaps into the madhouse. Hitherto we had, and I flatter myself that my diplomatic skills had no small matter to do with it, the full support of the natives. When we had left with our friendly priests guiding us, the population of the Spire and the buildings of the religious and secular community - for not everyone here is a priest; some must sow and some must spin, after all - around it was full of Tenomi's mission. The knowledge that great truths would be discovered, that something wonderful might be found, had galvanized them into great festive preparations.

While we were gone, something had turned that mood inside out.

The soldiers were waiting for us when we came down. Not that they called themselves soldiers of course. They wore red cloaks and chunky gold ornamental armour and they carried herdsmen's spears tipped with futurite. It did not take a man with my grasp of political intrigue to guess that they took their orders from Tenomi's second-in-command, a dried-up stick of a Canopusi called Mandir. They reminded me of the Cardinal's guards from *The Three Musketeers*, which I supposed made Mandir the Richelieu equivalent. In the interest of safeguarding the expedition, I naturally demanded an immediate audience.

Extract ends

Almost absently the Vo'lach machine strapped breathing apparatus to Bernice's mouth and nose while at the same time giving her an injection of anaesthetic. Now it had removed the element of urgency from the problem, Bernice would live - unless the greater aim demanded her destruction.

It worked through the probabilities without impatience, without thought. It had aims. It had methods. It had checking mechanisms; it did not need to think.

The attack - a primitive reprogramming of the lab itself triggered by the presence of a sufficient organic mass, the human known as Bernice - was clearly designed to kill organics. That, the Negotiator concluded, meant its impersonation of the doctor was not detected; assuming that it was the target. The probability that it might have been detected was low - all the medical and most of the biographical data it had needed to impersonate the doctor had been on file in the memory circuits of her black bag. The most likely route to discovery was the continued existence of the doctor herself. It had left her trussed up in a corner of the Spire, with a supply of food, water and air but with no means of escape. It had been a calculated risk. The great aim implied that she should have been killed, but the implicit value of the aim required that she be preserved. Its reaction - never a choice - had been not to kill her. Its reaction had been the result of balancing the probable disruption to the great aim if it was detected as an imposter against the resistance it was designed to feel to the extinction of non-Vo'lach life.

The detection probability produced by not killing the doctor had been reduced by planting a detector inside the ship's hypercommunications equipment, a device that did nothing but decode incoming signals and look for Dr Steadman's name. If it found her name it would fuse the portion of the ship's computers that handled the complex decoding of subspace squirts into a hot ball of dull grey metal. Of course the possibility that that mechanism might itself be detected had also had to be factored into the calculations but it still produced an overall lesser risk of exposure.

The attack had been an unsophisticated one, but its existence was suggestive. If it was not that the unit's disguise had been penetrated then the reason for the attack must be itself illicit - the action of someone determined to prevent a

discovery that 'Doctor Steadman' might otherwise make. Perhaps it was not the only imposter aboard.

The logical chain hit a checking value counter that suggested that it was leaving the main issue: how best to preserve its cover.

The human grunted in her sleep.

Mandir was waiting for Professor Fellows in a room the size and height of an intercontinental bullet train - one that had been stood on end. The height made the room's tiny floor space almost infinitely oppressive, and its air was dank and cloying.

In the centre a body lay in state covered by a thin sheet of animal hide. So small was the room that Mandir's tail arched over the body, twitching. The sheet was crisscrossed with tiny, tiny stitches. Under the shadow of Mandir's tail they seemed to move.

'The cauls of baby sandstriders,' Mandir said, seeing his interest, 'cured in the venom of the *Defarg*, and sewn together. According to the Scarlet Rite, it offers the soul insight into the world to come as it leaves the body. In this case we did not of course find the body until consciousness had long gone. Still, it is a matter of respect.'

'How did it die?' Fellows asked. He could see the bulk of a Canopusi body under the sheet, and he had been tempted to ask who it was but in the nervous pit of his stomach he could feel who it was even though he did not understand how. The dead Canopusi was supposed to be light years away, on the way to the Gods' world.

'Well you may ask.' Mandir's tail swished round, grazing the edge of the bier, before pointing, tip a tremble, at Fellows. 'He was killed with weaponry never seen before on this planet. Your expedition's weaponry, I have no doubt. Under the circumstances, I have asked my priest-guards to maintain order. I will have to ask you to cooperate with my questioning.'

'Certainly, ah. Officer?' Fellows hazarded.

Mandir grinned, displaying teeth in a way that Fellows had never before observed in a Canopusi. 'No, I have no *military* titles. We have seen such things in the future but Tenomi in his wisdom placed a ban on all such knowledge. I am High Priest now, no more, no less.'

'Right,' Fellows said warily. He wasn't sure if this was a coup or not. Among earth-descended cultures it would look like a forceful change of government; but the body itself was evidence enough that something strange was going on.

'Tell me,' Mandir asked, apparently changing the subject, 'do you think Tenomi was right? Is there any forbidden knowledge, anything that Canopusi or men were not meant to know?'

Fellows brightened. This was more in his line. Scientific ethics. 'No,' he said firmly. 'There are things we might be wrong to do with our knowledge, but I can't believe in gods who equate innocence with ignorance.'

'My view exactly,' Mandir said smiling.

The Negotiator was still considering, grinding facts through its internal slow mills. It could reset the atmosphere controls, and break down the door. The plan was rated B-plus. The force necessary to breach the door would be considerably in excess of human strength, even allowing for a hysterical override of the normal blocks that prevent people tearing their muscles away from their bones. Bernice was an observant person. Consequently there was a seventy-five-percent-plus probability that its inhumanity would be deduced; logically it needed to divert attention away from itself.

It removed the oxygen mask from Bernice's face and wiped from it the pseudo-fingerprints left by its fingers. Then, wearing surgical gloves, it put it back in Bernice's hand, wedged clumsily against her face. It gave her a carefully measured pressure injection of antidote to the anaesthetic. Before she could recover, the Negotiator stripped the gloves from its hands and turned on the intercom.

‘Help. Medical emergency. Medical lab. We’re sealed in. Oxygen levels falling. Only enough for...’ It let its voice trail away.

Bernice began to gasp, sucking in great lungfuls of the oxygen mixture, but she was still in carbon-dioxide-intensity shock. The Negotiator calculated that it had thirty seconds before the organic’s systems were fully back on line. Of course this posed a further problem. It could not permit its freedom of action to be curtailed, or it would no longer be able to preserve the greatest good of the greatest number. It activated the second part of its plan.

It shut down all its external mimicry functions, and let its apparently organic shell appear to enter a deep coma. In such a state it would not be suspected, and the organics’ worries would be defused until such a time as it became possible to [programming conflict area] them. There was a slight chance that a surgical investigation of its body might be carried out, but it discounted that as unlikely: first, because it would seem to be stable; secondly, because there was no other qualified medical practitioner on board; and thirdly, because the ship was due to arrive at Vo’lach Prime in the next few days. They would be too busy there to spare time for speculative medicine.

The guard was one of Mandir’s most trusted officers.

‘I brought the news myself, Elect,’ he said. ‘The officer who made the discovery is outside. I have ensured that he has had no opportunity to confide it in anyone.’

‘Most interesting. Take the human doctor into our custody and keep her safe. She may be of use. As for the officer who discovered her...’ Mandir paused and drummed his fingers on the razor-sharp shard of futurite he carried at his belt. ‘See that he is appropriately rewarded.’

HIGH DUNGEON

Professor Fellows paced his cell, and cursed. Why, oh why, had he never learnt to guard his tongue? As a result of his interview with Mandir, he and the rest of the surviving members of the expedition were now Mandir's military think tank.

The one who had not survived was poor Lochlin. Silly old Lochlin with his daft theories that meant everyone was so condescending to him, and he never minded, or at least he never let on that he minded. He always had a joke. His stuffiness was part of his humour, an intentional shell between him and what Fellows supposed was often an uncaring world. Certainly the part Lochlin had hit hadn't cared.

Mandir had decided that the inner Spire was the only safe place for *its* scientists. Security, Mandir had said. Until it could be determined who the killer was, all aliens were suspect. The population might try to take the law into its own claws.

Lochlin had not wanted to go and had raved not about heights but about dreams of falling. Fellows had almost expected the priests to understand that; they all dreamt and surely not all their dreams were of things devoutly to be wished. But they had still made him climb. Fellows knew now what a Canopusi snigger sounded like. It wasn't a pretty sound.

Irony demanded that Lochlin fall from the plank, at the point where he claimed that his slip would come, but actually he didn't. It was long before he had climbed that high; Fellows suspected Lochlin had done it deliberately. The long, slow climb up to the plank must have been, well, 'soul-

destroying' in its most literal sense. Perhaps there had come a point at which death now was preferable to another step towards death later. Fellows wondered if that was the fulcrum on which the lever of suicide always pivoted.

He turned again as his stride hit the wall. He, and presumably the others, had been imprisoned in narrow cells around the outside of the inner cylinder, spiralling upward. From here he could see both the exterior and the fire at the heart of the Spire, as luminous shadows through the lattice walls.

When Fellows had been a child he had been told a story of a man who went to hell, although for a time he believed it to be heaven for he had there every material possession for which his heart had longed. Eventually, however, he discovered that there was no savour in anything he did there and finally an angel discovered him crouching in the attic of his citadel in hell, his eye pressed, as it had been for a million years, against the one crack that let in light from heaven. That was what the fire at the core of the Spire looked like from his cell. It looked like the only real thing Fellows had ever seen.

Some days passed. He could not even scratch the walls to make a calendar. Instead he did what Mandir wanted. He studied. He wondered if the others were doing the same.

In his cell Elspet Fitzpatrick held up the ancient parchment against the glowing white girder. The parchment was thin as chiffon. On its surface straight black runes made conjunctions at perfect angles. The marks were, he finally decided, a mixture of Old Norse and Middle Period Martian. He knew enough of each to know that he had no chance of translating well enough to make any real sense of the text. It seemed to be all metaphor anyway - full of references to wolves eating the moon and the years of the great sterility, but written in a future tense.

The Canopusi had devised an appropriate method of coercing the cooperation of a scholar, he thought wryly.

Boredom, not fear, was ensuring that he was doing exactly what Mandir wanted. That and the memory of Lochlin's fall.

It had taken at least a week since his incarceration, if he could judge from the fluttering scraps of shadow that made their way into the Spire's interior, and frequency of the irregular meals that were left without comment by the priest-guards. There was no true night here: everything was as coldly luminous as if he had been pent up in moonlight. Finally he had sorted all the material into groups ranging from the utterly incomprehensible - stick-men drawings with the heads of elephants and fragments of ruby-red pigment carefully ringing their heads in haloes of scarlet - through the identifiable but incomprehensible, like the linear runes he had just laid by, to the neat strokes of twentieth-century English and its modern descendants and finally the scholarly language in which Dellah conducted most of its business.

The 'Ghost Languages' of the future that the priests of the Spire gabbled in their mystic trances were not just glossolalia. There really was data flowing down the Spire from the future, and the priests had been recording it so long that quite a bit of it was about the past. Not exclusively Earth's past: indeed most of the material came - Elspet supposed - from other civilizations; but even when the priests had not been able to grasp enough of a Ghost Language to identify the part of the future from which the data came, there were still patterns, kinds of meaning.

The cell was a sparse concavity in the gleaming white girders of the Spire's internal construction, between the aurora lights of the stratosphere to his left, and the searing actinic blowtorch of the Time Flame to his right. Outside the long, worn, wooden stairs of the Canopusi Spire Explorers led down, six, seven, maybe up to nine hundred metres to ground level. He had lost count when they had brought him up after the seven thousandth stair.

The only darkness there was in writing. The cell was crammed with scrolls and tablets, some mere jottings, others already hedged about with a thousand commentaries and criticisms.

This was one of Mandir's repositories. A storehouse for all the forbidden texts, the hidden prophecies, the black knowledge, the incomprehensible esoterica of a thousand years of blind telepathic resonance. Everything written about weapons, everything written about war, all the material that Tenomi had ordered destroyed on his accession to the Priest-King's throne, had been gathered up in secret by the agents of Mandir's antifaith, and carried up into the heights.

If Elspet wanted to live he was expected to make sense of it. In fact it was clear from Mandir's sneers as the crippled priest had worked home the iron bolts on the wooden door - how many hours of labour had been wasted hoisting the wood this high into the Spire? he had wondered - that he was expected not to make sense of any of it. He was expected to fail.

He reached for another manuscript. This one was in English, a strange, odd English that he guessed was roughly that of Chaucer's time.

Guard-Priest Kraal Envor uttered a sibilant hiss as the banging broke out again from within the improvised cell. He slid back the shutter that covered the translucent window of hammered *Ulgra* scales. The Fellows creature within pressed its moist pink face against the scales imprinting a hexagonal pattern into its spongy flesh. It made Envor feel sick to see this podgy travesty of the bipedal form of proper life trying to act like a scholar. The sooner that Mandir ordered its destruction the better he would like it.

'I need more paper, and reed ink if I am to complete my calculations,' it said in its high piping voice. Envor recognized its speech as one of the Ghost Languages - perhaps the single commonest one that the Gods had sent from the future. The realization made Envor feel even more disgusted. Surely this pallid monstrosity was not the future that the Gods had planned. The instinctive heresy made Envor shudder. It was hard for all Mandir's teachings to refute the indoctrination of his youth. For a moment he had forgotten that the Gods were dead.

He scraped his claws over the window scales, so that only their thickness kept the creature's pink flesh from being sliced open. 'I will return with what you need. Do not cease to work. We will need weapons. To provide them is your only purpose. If you fail, Mandir will not be so merciful as to give you to me to kill.'

In his cell. Fellows shrugged. He had been grossly intimidated by the guards at first but as the days passed he had discovered that it was physically impossible to retain that level of fear for every instant. The fact that they had not killed, injured, or even seriously threatened him made him wonder if the authority that Mandir had claimed was actually supported by the majority of the priesthood. It was hard to believe that Mandir could be popular as a leader. Still, Fellows mused, Hitler must have seemed a pretty unpromising candidate for a demagogue at first.

Mandir came the next day, assuming that Fellows' rumbling stomach was any guide to the passage of light and dark.

'What have you to tell me?' he demanded curtly. Evidently Mandir was no longer insecure enough to waste courtesy on aliens.

'I know how the Spire works,' Fellows said quietly. It wasn't what he had been asked to find out, but perhaps it might have some value. It was the truth after all, and he had always believed that the truth had to count for something.

'Indeed.'

'First I have to explain that my people have mapped the stars and we know from how they move that there must be much of the universe, perhaps as much as ninety per cent, that is not in the form of visible stars. We call this "missing mass" dark matter, and for a long time we have argued about its nature.'

'Really.'

'I had a theory that it might be tachyonic - real matter travelling faster than light. There are equations that tell us what such material would be like. To it, the speed of light -

which we think is the highest speed a physical mass can travel in normal space - would be a barrier in reverse. A zero-energy tachyon would have infinite velocity, and it would take infinite energy to slow one down to the speed of light. They would also have rest masses calculated as imaginary numbers, and travel naturally back in time from the point of their creation.'

'What is an imaginary number?' Mandir asked. 'I am not seeking imaginary answers.' He flexed his claws ominously. 'Or other lies.'

Fellows wondered if he ought to carry on. Mandir wanted weapons, and all Fellows could offer was cosmology - all he could honourably offer. He hoped that the scale of his discoveries might make Mandir see his ambitions in their true dimensions. It was a narrow scientist's hope - a microscopic hope. It amounted to thinking that the scientists who worked on the V2s could have talked Hitler out of the holocaust by describing the peaceful uses of rocketry. But it had to be tried.

Imaginary numbers are the square roots of minus numbers. They are neither positive nor negative, or rather they are both for both minus two times minus two and two times two are four.' Because imaginary numbers don't have the same obvious existence as ordinary integers, some people have argued that tachyons also do not exist or, if they do, they exist in a universe existing somehow aside from ours.

'The Spire proves that isn't the case. The light that flows down the inner, inner cylinder is light from the future, and not just light but tachyons. The light indeed is a by-product of the interaction between the Spire and the tachyon stream. I think the Spire is changing the value of the speed of light fractionally so that some of the tachyons can cross into the universe of our perceptions, as light and as exotic particles and as psionic radiation.'

'This pleases you?' Mandir asked. 'To know this?'

'Yes, because we have been able to detect the gravity waves given off by the tachyon stream in the Spire and compared it to that needed to account for the motions of the visible stars.'

We know how it works! Tachyons from where the galaxies will be in the future, travelling back in time, give off antigravitons and shape the galaxies from the outside, just as gravitons emitted from baryonic matter travelling forward in time shape them from inside.'

Mandir looked at Fellows with smouldering eyes. 'These things, then. These galaxies, if I understand you, are held in place by forces from the future preventing them from being now where they will be then?'

'Yes!' Fellows tried to communicate his enthusiasm. All their lives might depend on it.

Mandir sighed. 'I am surrounded by near-sighted fools and far-sighted madmen. I sometimes feel I am the only sane one here. Some time ago, I had occasion to wish someone killed. It was a matter of state. I need not bore you with the details at this time. I told a soldier whom I trusted to see that the person was appropriately rewarded, and I laid my hand on this sharp implement thus. Tell me. Professor Fellows, where did I go wrong? For today I met my trusted soldier and I said to him, "Is so and so dealt with?" and he replied, "Yes, I gave him three sacks of *rustin* seed from the stores and leave to see his mother." Should I punish him who has acted according to his nature rather than my command?'

Fellows felt his skin crawling as if he had found something venomous in his shoes, and yet he heard himself reply, 'Perhaps you were too subtle.'

Mandir nodded thoughtfully. 'Yes, perhaps. I try. I even learn how to give agreement to your kind with this bobbing. Yes? I must be clear.' He reached out for Fellows' left hand, and carefully, so as to minimize compound fractures, broke three of his fingers. 'Next time, tell me something useful.' He patted Fellows on the head. 'It was not uninteresting but I have heard more believable theology from my own people. What use is such trash? Teach me things that make a difference.'

* * *

After Mandir had left, Fellows bound up his fingers and, wincing, straightened them as well as he could.

Mandir was wrong. Not only in the sense that he was evil or that his politics were not those that Fellows supported, but in the sense that the universe was not organized in the way his view of the world demanded.

The hotchpotch of future data in all its incomprehensible forms that Mandir had gathered was interesting but it lacked the implications of understanding how it had come to be there.

Fellows' theory explained futurite. It was a tachyon-baryon alloy, a material whose particulate structure was moving back and forth in time within itself; this accounted for its immense strength, and time-retarding properties. He was not sure yet how it had been made, but if his preliminary calculations were correct it was formed in the Spire itself by the bombardment of tachyons on the materials of its construction.

If so, if the only source of futurite was the Spire itself, where had the pieces come from that the Noun prospectors had been picking out of the sand for so many years?

He began to tap on the lattice walls of his cell with his good hand.

YOU CAN'T BE TOO CAREFUL WITH LIFE

From the diary of Professor Bernice Summerfield

Three days of convalescence strapped into an autodoc of the basic it-beeps-if-you're-breathing variety, and the tubes are out.

Dr Steadman wasn't so lucky. Her autodoc printout reads as if she's in a coma, and no one has the medical expertise to work out why. She was half asphyxiated in her efforts to get help, having forced the only oxygen mask on to my face, but I know enough medicine to doubt that could be the whole cause. The ship brain's medical memory is the old Conway-White standard text: good but it's not AI interactive. All we can do is keep her in suspended animation until we can get to a medical facility. The ship had some deep-gel cabinets for transport of live goods just by the shuttle bay. She's in aspic now, like a prawn in a cocktail, and my current middle name is Mud.

The captain has made no effort to avoid the implication that she would rather have had a stiff archaeologist and a living medical officer. I gather they were old friends, which has pushed the Bernice stock to all-time lows as far as Sandra Johansen is concerned. This ship is doomed: the *Titanic* only hit an iceberg; the *Second-Best Buy* is captained by one.

Still there's one consolation. At least my vision didn't come true, and, sorry as I am about Jane's condition, I'm sure she'd rather be on her way to proper medical care than unknowingly hanging on for a future of being blown out of an air lock by yours truly.

Today we're due to emerge in normal space at the prime candidate for the Vo'lach home system.

With the captain's tacit approval, which is to say she had responded that she wouldn't lose any sleep if I was in a transparently hulled part of the ship when hypothetical aliens attacked with heavy lasers, I've managed to get Sergei and David to push my bed into the observation dome (really a tertiary storage facility that Sandra and Jane had customized with a hull insert of bubble-formed, zero-refraction laminate after a particularly successful smuggling run) to watch the emergence.

The moment of re-entry into the space surrounding a new star is normally a good time on board ship, and a number of odd spacer's rituals and jokes have grown up around it, particularly when the star has only been perfunctorily surveyed in the past. This was the case with most of the stars of the Northern Cross, with the exception of Epsilon Cygnus, which lay within a hundred light years of Earth and hence was on the tourist as well as the serious space routes, so ordinarily I might have expected libations to Old Father Space and the Virgin Worlds, and compulsory singing of 'Up the Greasy Pole' and other zero-gee anthems.

Not this time. This time I had a bad joke that was spot on.

'Well, it couldn't get much sadder,' I quipped as the *Second-Best Buy* snapped out of hyperdrive on the fringes of the Gamma Cygnus system.

Sergei chortled, 'Is pun, yes? Sadr is name of star.'

'Is very bad pun,' David groaned.

'I just wanted to pre-empt any stupid jokes,' Bernice lied.

'You mean like wondering if you're going to be bedridden the whole time or whether the visit is going to be in Cygnus or in health?' David said innocently.

Sergei looked at Bernice and made a noise like a wounded animal.

We were just trying to distract ourselves from why my joke had turned out to be so appropriate. The Sadr star system had been gutted.

In a normal star system you might get a couple of gas giants, a number of small rocky planets in the orbits capable of supporting liquid hydrogen oxide - and hence Earth-style carbon-, hydrogen-, oxygen- and nitrogen-based life, and thousands of planetesimals, asteroids, rogue moons and general debris. It isn't untidy: it's normal, homely, lived in.

The Sadr system had been mined out, and tidied into oblivion. There were no asteroids in free orbits for a start, at least none large enough to show up on the ship's scopes at five AUs. There were some asteroidal clusters but these had been arranged neatly in Lagrange-point micro-orbits ahead of and behind the planets for ease of space mining. There was one gas giant left, and its mass was so depleted with the sieving of elements from its atmosphere that it only just squeaked into the classification. The inner planets were being strip-mined, so much so that their orbits verged on the variable, and one looked more like a slice of Edam rather than an ordinary world; presumably the vast wound was being held open against gravitational collapse with pressor technology to give access to exotic elements in the mantle and core. It was impressive but it wasn't comfortable; it didn't look like the way anyone would treat a star system if they intended to live in it.

The star wasn't even really F8. Despite the ship's star charts, it was really brighter and more energetic, but barely half of its output was getting past the series of overlapping screens and solar collectors that crawled over its surface. The ship's sensors showed billions of gigavolts of energy being transferred via subspace conduits to the various planets. It was a technology that had been tried on a small scale in the late twenty-third century. It had been abandoned partly because, even with subspace transit links, the inverse-cube law lost too much of the power, but mainly because the beams were lethal to any organism with a complex nervous system based on electrical signals that might come within a thousand miles or so of the secondary and tertiary electromagnetic-flux torus that surrounded each beam. My

guess is that the Vo'lach regard that as the main selling point of the technique.

'Welcome to Val-bloody-halla,' Sergei said.

From there it was downhill all the way.

We entered the system slowly broadcasting messages designed to suggest that we might be interested in a massive arms deal. Hardly prayer, but it seemed the safest approach: most arms salesmen tend not to kill their customers, at least not directly. I must admit that I thought my insurance against death by collateral and friendly fire was probably too low for me to be within twenty light years of here.

Readings from the second planet were confusing but there seemed to be some kind of heavy-weapons bombardment going on there: dirty nuclear stuff, very primitive, very, very messy. I thought that the second planet must be the test range for special 'with prejudice' orders for those wars where you just don't care about your descendants, and that the Vo'lach themselves would be on the first planet.

Later, when contact had been made, I have to admit it, I was wrong.

The second planet is it. The legends are right: the Vo'lach did kill off their own ecosystem and from the look of it they didn't stop there. Under the thick dead smog of its atmosphere, seen with the ship's telescopes, the surface of Vo'lach Prime - as they call the second planet (why it isn't Vo'lach Secundus, I suppose I'll never know) is scarred with fission-bombardment craters like a larger version of Earth's moon. Like pockmarks in a dull grey face.

They copied us a simplified translator text for trading purposes. It has seventeen words for eviscerate, and none for fluffy. Why am I not surprised?

Extract ends

In the battered observation dome of the starship *Second-Best Buy*, Bernice recuperated and played join-the-dots.

The dictionary was a thick swatch of printout. According to Tenomi, the Vo'lach had been most insistent about forbidding any intrusion by alien technology upon their world. The

diplomatic party would go down with the minimum technical backup, and he wanted the team familiar with pen-and-paper solutions.

Tenomi's Gods were apparently quite touchy about the introduction of alien technology to their... Bernice groped for a word. 'Biosphere' wasn't really appropriate, perhaps 'machine shop' or 'workings' was better, but somehow both terms gave her a cold sensation when applied to a planet.

Shivers aside, there were plenty of reasons not to antagonize the Vo'lach. Bernice scowled at her doodling. Her tentative translation of the bomb pattern hieroglyphs across the Northern Continental mass read 'Death to Pseudolife' and 'Purity in Silica'. Touchy seemed something of an understatement. She was pondering the paradoxes of the Vo'lach for the thousandth time when a shadow flung itself over her face as the observation dome polarized. Over the west ocean chain, on the nightside horizon of the turning planet, a nuclear reaction made a false, glaring, sunrise as heavy-metal nuclei met their end in a stream of neutrons. The Vo'lach had warned Tenomi that 'suppression of sea life' was still being carried out and that any diplomatic party should put down as far inland as possible. In the last twelve hours, while the Canopusi was negotiating their landing, three other fission bombs had exploded on the other side of the planet. The ship's neutrino-deflection sensors picked up the more exotic particle production right through the planet's mantle. Bernice didn't have a problem with staying inland. Yes, sir, inland was looking good.

Bernice wondered again how Tenomi had persuaded the Vo'lach to talk to them at all.

The hunter-killer submarine scudded its way through the copper-sulphate-saturated oceans of the west chain. Its CPU was a mass of armour wrapped around a core of subelectronic circuitry, but most of its computing power was concentrated elsewhere these days. It had been built when the Vo'lach had been more active, it knew, and it accepted completely that it was a relic of Vo'lach prehistory.

The mainland evolution of the Vo'lach had, it supposed, left it behind centuries ago, but it knew also that it was still of use. Prebiotic conditions in the oceans - despite the seeding with poisonous sulphate crystals and long-lived radioactive isotopes - might one day evolve forms on its target acquisition list. The odds were good that the sea was functionally sterile: they had remained below one chance in ten to the power of twelve for the past nine thousand years, but it was programmed to take no chances. Almost lovingly it sieved radioactive material from the ocean depths to rebuild its decaying stock of microfission weapons. While it performed to spec, it would obey its orders.

It was, so to speak, happily looking forward to its long-overdue inspection.

'The lander is a classic aerofoil,' David said proudly. He patted a violet-painted panel lovingly. Its crystal-tiled wings double as solar-power collectors in free space; a typical piece of dual-purpose engineering that has proven its versatility and durability over many hours of in-space usage.'

'In other words it isn't new,' Bernice grumbled. She supposed she should be glad to be included in the diplomatic party and ordinarily she would have been, but she was still suffering the aftereffects of the attack on the medical lab and the unsolved nature of the attack - Captain Johansen's current theory was that it had been a second attack on Tenomi and only the Canopusi's stubborn insistence on getting up for a walk to hydroponics and back had taken him out of the damage area - was still pressing on her mind. Someone had poisoned Tenomi, and someone had rigged the medlab to stifle its occupants. But were there two someones or only one? And just whom had they been trying to kill and why? She had met Geth coming from the medlab, and he had a motive of sorts for wanting to do away with Tenomi, or his mentor and guru Mandir did. The normal, sordid, corporate-ladder motive that was behind almost every murder.

Historically, people kill when they think themselves thwarted and when they can see no other way out, she

mused; that's why periods without divorce have more murders between marital partners, and periods with strict feudal hierarchies have more murders in royal families. Almost everyone who has ever been murdered has been killed by someone close to them. All of which made Geth the obvious suspect because, as another Canopusi, he was the only one on board who could be thought of as being close to the High Priest.

What would Roz have done? Bernice wondered. Broken something, probably.

In storage, the casket holding Dr Steadman's body shuddered as the Vo'lach Negotiator raised its body temperature and shed the gel surrounding it.

This close to the home world it could feel the signals travelling across space, trembling like spiders' webs with the Vo'lach purpose. It knew its duty, and now the weight of its different aims had come together into a clear, unequivocal priority: even if it had to kill them, it could not allow the living to contaminate the Prime world.

It did not understand why the weapons of the Prime world had not just been used to blow the creatures' ship out of space. Perhaps the circuits of the determinators involved in the decision were as yet divided between the main and the implied aims of the Vo'lach purpose; perhaps they really had been accepted as traders. No matter - it knew what it must do.

In the shuttle bay, Bernice and Captain Johansen were politely disagreeing. A polite poke in the eye was coming up soon if one or the other didn't give way.

'I don't see why I have to go,' Bernice grumbled. 'I'm ill.' She coughed hopefully and glared at David, who tried to look as if he hadn't got her down there under false pretences. Come and look at my purple shuttle craft, indeed. She should have known it wasn't a genuine chat-up line.

Captain Johansen shook her head. She was enjoying this. 'Oh, no. The diplomatic party will consist of you, me.

Tenomi, obviously - it's his show now - and Geth. David here will pilot us down.'

'They still insist we land manually?' David asked with what Bernice considered odious cheerfulness.

'Yes,' Tenomi said. 'As I understand it they refuse to have any alien software or hardware if they can help it within their sphere of influence. We can't do anything about hardware, but all extraneous software has been moved to the ship's brain for safety.' He shook his head slightly in a curiously human gesture of puzzlement that Bernice had never seen a Canopusi make before. 'I suppose I might call it a religious objection. There will be no difficulty, I trust?'

'Not a second's worth,' David said confidently. 'We'll just glide in over the cloud cover - to avoid the artificially enhanced acid rain - until we're over the designated landing spot and then we'll drop straight down on the landing jets. Nothing fancy, nothing that might be misinterpreted. Piece of liquid by-product.'

'I still can't believe you're going to go through with it,' Bernice said. She let her voice become husky with resignation, and perhaps with fear. Sadly, it wasn't difficult to sound as if she meant every word. 'I don't think we'll be safe for a moment down there, in that... that shooting gallery.'

Sandra looked at her as if she'd gone mad, and Bernice felt a twinge of gratitude that at least the captain didn't think her the kind of wimp she was making herself out to be.

'I just thought somebody should say it,' Bernice sighed. 'OK, give me a pin-on name tag and count me in.'

'We aren't targets,' Tenomi said soothingly. 'The Vo'lach have no quarrel with other intelligences provided we respect the sanctity of their workings.'

'So they say.'

'Discussion over,' Captain Johansen said. 'All aboard, everyone.'

'Oh, God, I feel sick,' Bernice muttered.

After they had climbed aboard, no one noticed the figure that ran into the shuttle bay and climbed up into the shuttle's landing strut. As the pressor and tractor shunt cased the shuttle out of the bay, and the landing struts closed up into the shuttle's hull, the thing that still looked a bit like Dr Steadman began to extrude control filaments into the internal communications network of the shuttle.

'Has this thing got a name?' Bernice asked David as he activated the shuttle's retrorockets to shed orbital velocity.

'*Purple Love Rocket*,' he said seriously.

'Forget I asked,' Bernice said.

The *Purple Love Rocket* angled down into the atmosphere, its heat shields taking in energy from friction with the air and storing it for later use. The shuttle, for all Bernice's bitchiness and the stupid mock-macho of its name, was old and unglamorous, a solid working ship. Built to last. Built to be failure-proof.

The sudden failure of the controls to carry out their purpose and control anything did not, therefore, do any actual damage to the ship. It did not rip the hull open or destroy the engines or do any great harm, but it did throw the ship off course while the shuttle's limited but normally entirely effective self-repair diagnostics looked for the problem. Ordinarily this would not be a killing situation because the autopilot software would have corrected the course, directly cutting the manual controls out of the loop. Unfortunately, on this occasion the autopilot software had been deleted at the Vo'lachs' insistence.

'Brace yourselves,' David shouted. 'We're on a slow glide down. As per the initial flight path, we've just overshot the drop-down point and we're going to splash down in the ocean. The *Rocket*'s tougher than she looks. We'll be fine.'

In the sea below, warlike mechanisms evaluated their path, and prepared surface-to-air missiles. An unauthorized

intrusion into their airspace was a sign either of AI innovation, or of life. Both were to be mercilessly expunged.

The sea boiled with missiles.

* * *

The Negotiator relinquished its blocking signals and returned control of the shuttle to the doomed organics and waited for the missiles its internal sensors had detected to blow the shuttle into atoms.

It felt no sense of loss in connection with its imminent destruction; if it felt anything it was the quiet satisfaction of having balanced its conflicting mission objectives. It had not imperilled the great aim of bringing Peace, nor had it personally killed. Its circuits were undisturbed and at rest.

The missiles hit the shuttle and blew it to hell.

INTERLUDE

God:

Subroutine: Prognostic Omnipotence by Divine
Emulation,
Bernice (Variant) 57 Running: Start Parameters As
Real Time.

Best-Guess Future (+2/-2) 97.7%

Clarence stopped in the narrow ship's corridor and brushed the metal of the spaceward wall with his sensitive fingers. It gave off a hum that tingled in his fingers. The ship was primitive, but it had been well designed for all that, and, possibly for glandular and biological reasons, the angel felt a twinge of kinship like an anthropologist watching a particularly astute primate.

It knew it was delaying the debriefing deliberately, and it marvelled at the squeamishness it had developed in respect of this task. What was it about *feelings*? Things had been so much easier when it had been a Ship.

Only animals are squeamish, it said to itself sternly, only icky, lower animals; not me.

Liar, liar, pants on fire, a still small voice said in the back of his head.

With a hand whose biology was a lie he pressed the door sensor of Bernice's stateroom. The pill container lay empty on the bedside table. She was quite dead. Choked on her own vomit.

Clarence ran his emotions through a lookup table. He realized he felt sad.

'Oh, God,' he subvocalized. 'If possible take this cup away from me.'

'That's hopeful,' Gabriel said encouragingly, 'this one almost made it to the debriefing.'

'Unlike emulations one to fifty-six,' God said.

'You're forgetting thirty-three.'

'I never forget, I'm just not *mentioning* thirty-three.'

'I've just never known an emulation get at its own underlying code.'

'I said I wasn't mentioning it, OK?'

'Sorry.'

NOSTRADAMUS WAS RIGHT

Elspet rubbed his eyes blearily and cursed, realizing that he had left a smear of ink across his forehead.

Fellows' latest messages, lapped out on the girders that connected the chain of cells, had been faltering, and while the physicist wasn't wasting code discussing his predicament, Elspet guessed that he had been assaulted, maybe tortured. Malkovitch had been ingenious to have devised this means of communication but his trouble was that he did not understand how to be flexible. Elspet took the situation far more philosophically: if the Lizard King wanted him to be locked up with nothing but obscure mythology for company, well that was just how he liked it anyway. Elspet Vespatrik was in heaven. He was fed, and he had intellectual stimulation. OK, so human female company and distilled beverages would be a plus, but he could get by, and eventually Bernice and the others would come back and kick Mandir's skinny quasireptile butt.

The text from the Vo'lach symbols on the Spire was dry as toast on its own, but mix it with the honeyed words of the Canopusi's visionary experience and you had food for thought. Elspet had begun by equating the warring symbols with Chaos, the wobbly blue one, and Law, the outward-radiating red one, but the more he thought about it the more he thought of that dry toast. The Vo'lach had looked funny, but their text was utterly devoid of metaphor. Perhaps if they had been quadrasexual they simply hadn't had time to develop a sense of humour.

What's red when it expands and blue after it collapses? He wondered.

The obvious answer - an exploding penguin - did not convince.

Still, he knew the answer would come, if he could keep alive to find it, and unlike Fellows he had no intention of antagonizing Mandir. He suspected that the High Priest already regarded him as a far less valuable acquisition than someone who knew how a gamma-ray laser worked. Whereas Fellows the physicist had been confronted by the details of all the future weapons Mandir had been able to glean from the visions of himself and his kind, Elspet had been left with little more he could understand than the languages the Canopusi didn't know and the rubbings he himself had made of the symbols on the Spire. True, he had the similar records of the even more alien (older?) patterns higher up the Spire - the ones Fellows' crude techniques hadn't deciphered - painstakingly copied by the exploring Monks on their long climbs upward to where the air got too thin to proceed farther. But even so, without any kind of a key to the symbols he was reduced to proceeding in human intuitive steps that might turn out to be fundamentally flawed.

Mandir, he knew, was unlikely to sympathize.

With this in mind he had concocted a plan. A nice simple one. He was going to lie.

Since in this case he judged that the odds of actually being able to decode any of the upper symbols without major computer backup were next to none, and the consequences of not saying anything might be a headlong fall from the biggest building known, there seemed little else to do. What he needed was to fabricate a set of discoveries designed to keep himself and the others alive for as long as possible.

Such a set of false results obviously had to have certain characteristics. First, it had to be built on the assumption that the symbols were text, and not the equivalent of wallpaper. Secondly, if he was going to pretend to find something, he needed a good reason for it to be there in the first place. Thirdly, it had to be text that Mandir would find pleasing. Pleasing, but if possible with a subtext warning him off killing aliens, or more subtly including some injunction or

warning that might give Elspet control over Mandir's actions. In Elspet's new Liar's Theory of Science any discovery about Vo'lach language that did not satisfy those three points was a trivial solution, which meant that, while it might be true, expounding it would only get everyone killed.

Elspet knew that this was a dangerous course of action, but not, he thought, as dangerous as inactivity. Mandir hadn't realized that trying to force information out of experts put you at the mercy of their expertise. Although the crippled Canopusi had clearly envisaged the use of science, as opposed to ecstatic visions, as the way forward for his species, he had no experience of the history of science, its frauds, blind alleys, blinkered moments, and stubborn pigheadedness. He had even less experience of the techniques used in the pseudo-sciences: astrology, mysticism, dianetics, and general flim-flammery. Elspet had studied the general semantics of such mutant twigs on the tree of knowledge extensively, and he was prepared for a fight, if it wasn't too much effort.

Bernice fell into a sea the colour of radioactive iodine. Her ejector pod shredded on impact. Going down for the third time, drowning not waving, Bernice hoped for an afterlife that didn't involve giant bloomers, pantomime horses, working for God and thigh-slapping. It did not seem too much to ask of an otherwise apparently uncaring universe. The last time had been bad enough.

Eventually, Mandir's rounds of the captives brought him to Elspet. Vespatrik wondered how they had ever trusted a politician whose eyes twitched back and forth independently, like those of a chameleon, but he smiled and effusively bragged up his imaginary success, until both those eyes were staring into his like the red orbs of an orange Nixon, or a Colonel Zembasi.

'Well, creature,' Mandir said, 'I confess that I was expecting little of you. None of the scholars of my people have been able to understand the writing of the Gods, except for the scraps

they made easy for dull prosperity like your stargazing colleague. Nor are your kindred from other worlds proving better investments of my time. Reason tells me that I will need to kill you all eventually, if only as a drain on the time of my guard-priests. What counter-offer can you make against the outcome of that logic?’

Elspet gritted his teeth. A lot depended on weighing up Mandir’s reactions. Like a good fortune-teller, Elspet was going to have to build on his audience’s responses to his words, finding the things that Mandir most wanted to believe and putting them forward as the fruits of pure research. It was an utterly unethical course for any scientist, but what the heck! It might just save everyone’s life. Elspet was quite prepared to apologize to the ghosts of Newton and Einstein later.

‘All I can do is tell you what I’m beginning to suspect, logically, from the parameters of the problem itself. I haven’t decoded a single symbol yet, and I’m not at all sure how long it will take me to do so, although I see several possible avenues of approach.’

Mandir hissed angrily. ‘There are matters demanding my attention, pink grub. Do not think to eat up my time here with platitudes. If you know anything tell me of it. If you do not, discover it quickly if you wish to retain your breath.’

‘Follow me carefully then,’ Elspet said. ‘I think I can shed a little light on the problem. Ask yourself this: the Spire gives your people visions of the future, correct?’

‘To our detriment, yes. So much is wearisomely obvious.’

‘And in those visions you see acts and texts and hear snatches of languages from the futures of all the races that existed since your people settled around the Spire?’

‘Yes, again obviously. How else have we learnt to speak your alien tongues?’

‘Yet there is by your own admission at least one tongue you have not learnt.’

‘What do you mean?’

‘I mean the language that is written on the Spire. If it has been in use anywhere in the universe for the last two

thousand years, or will be in use at any time in the rest of eternity, then I would have expected you to offer me at least those few examples of it that had been dreamt of by your monks - as fodder for my work - and perhaps you wouldn't need me to translate it at all.*

'Interesting. Continue. Your life may be of value yet. What do you deduce from this?'

'I think you've already guessed.'

'I would prefer to hear it from your own lips.'

'Well, then. To coin a phrase, I think the Gods are dead.'

Deeper still, through a purple stinging haze, Bernice saw a shape out of a childhood nightmare rise up from the depths.

It was a great rusted metal grille, stretched in a death-head grin across the vast front of a mechanical fish. It yawned open, and the ocean swept into it.

As she lost consciousness, with her lungs full of poison, she identified, with the fierce precision of a scholar expecting a quiz later, the source of her recognition. The thing looked like the whale Monstro in the old Tri-Disney holovid; it had been a favourite of her mother, but it had scared the infant Bernice to such a degree that she even refused to use one of those post-art-deco fish-shaped corkscrews at faculty dinners. Oh well, she thought. At least that'll be one fewer embarrassment in heaven. I won't be afraid of the tablewear.

Then she blacked out.

'This hypothesis is intriguing. You hope to verify this from your study of the symbols?'

Not in a million years, Elspet thought, but he nodded and, in case Ghost Body Language hadn't reached the Canopusi, added, 'I see no reason why I shouldn't be able to demonstrate this to your satisfaction. I would argue that the Spire is in fact a kind of grave marker, a last defiant fist raised in the face of death; possibly even,' he added quickly, for he had seen Mandir's eyes both turn towards him in a way that, accurate or not, he could not help but think threatening, 'a mechanism to create their replacements, an

engine put here to force your race to become the next Gods.’ There, surely the arrant flattery of the it’s-all-for-your-benefit tactic would win Mandir’s trust.

‘They would make *us* Gods,’ Mandir mused, his claws flexing in and out of the tips of his long orange fingers.

Elspet realized that somewhere he had gravely miscalculated.

‘They would make *us* Gods’ Mandir reached out and pulled the academic towards him, his claws slicing through the soft cloth of Elspet’s tunic into his chest. Mandir’s voice was full of hurt and fury. Elspet did not dare cry out. ‘Do you know what I consider a god, scaleless thing?’ Mandir hissed. ‘A god is a sick vampire that battens on to a race and sucks all initiative out of it. It is a thing that cannot heal a single sickness, and yet when an individual, perhaps reviled and scorned for his belief, finds by trial and error that a fever may be defeated so, or an ague cured thus, the cries of the worshippers go up not to the mortal but to the invisible thing that neither by action nor by imparting knowledge healed so many as one of the multitude. Should I be glad, then, if these benefactors, these open-handed givers of the gift of prophesy, desired that we become like them? No. Rather I say that we should slit the throats of our children as they sleep. Thus do I regard the Gods.’ He blinked his staring eyes. ‘Bear this in mind when you try to flatter me by saying we might become like the Vo’lach.’ He released Elspet. Blood was prickling up under the tunic, creating hieroglyphs in unknown languages on the philologist’s chest. Mandir turned away. ‘I will send a priest to attend to your wounds. Continue your work.’

The hunter-killer sub considered the debris it had sieved from the sea. There was artificial material of non-Vo’lach manufacture; this tallied with-the datum that a life-sensing missile fired by one of its kind had just exploded in the stratosphere, and implied as a likely consequence that the parts were of alien origin. Further, this implied that the five bodies pulled from the sea were also alien life and hence to be killed at once as painlessly as possible.

There were, however, two problems with that diagnosis, and the slow non-sentient workings of the hunter-killer's mechanism were clattering through their molecule-sized card files looking for the answer, with the sound of nanoscopic gears slipping. Problem one was that the hunter-killer had definitely detected a Negotiator unit's identifier signal from the bodies before it had pulled them all on board. Indeed if it had not detected the signal it would as a matter of routine have allowed them all to sink into the depths, perhaps - subject to weapons availability and testing schedules - zapping them with something lethal as a precautionary measure.

In so far as the central mechanism of the hunter-killer could be said to expect anything - which in absolute terms was not at all - it had expected that when the bodies were on board, within the field of its internal sensors, the first problem would be immediately resolved. The Negotiator unit would be salvaged, repaired and returned to use if possible, dissected for parts if not, and the others would be killed. Being non-sentient, it had no time sense and no expectations, but it had a foreign-body identification algorithm that said if low on ammo and unsure, take on board and then destroy after analysis. The algorithm did not appear to take into account the second problem, which was that, since taking the five potential life forms on board, the sub had not been able to get a sensible reading from its fine-tuned internal life-scanners.

The problem was causing difficulty to the equation-solving engines in its innards. The default solution was simply to dump all the material overboard, thereby reducing the problem to the previous case, but something was preventing this course of action. Metaphorically speaking, the hunter-killer was getting a headache.

While it considered, its subsystems went on decontaminating the possibly salvageable machinery, hosing it down with antiradiation foam, corrosive retardants, and conspicuously barcoding it for ease of pattern recognition.

Bernice became conscious halfway through the process and wished she hadn't. By the end she was half wishing she had died in the sea.

Once the process seemed to be over she pulled herself up on to her elbows and took stock. The immediate side effects were similar to a bad hangover, but the complete absence of university proctors' helmets, nubile members of the intercollege rowing soc, and any kind of whisky chaser, together with the dank rusty-metal interior, was sufficient to verify that the causes were quite different.

Basically, she was alone in a metal box with no way to know if her colleagues were alive or dead.

'Psst.'

The hissing noise came from a narrow vent in the wall. Part of the air-circulation system. Bernice hoped it wasn't going wrong. It was not that unlikely that the sub had an internal atmosphere - the gas pressure helped to add additional, albeit infinitesimal, strength to the ship's hull. What had been unlikely was the evident fact that the gas mixture was breathable. If she had been required to bet on the internal workings of a hunter-killer sub, giving particular weight to its apparent aim of killing every minuscule biotic cluster in the ocean, she would have plumped for a cyanic derivative, or possibly one of the nonreactive noble gases which would have coupled suffocation with anticorrosion measures. 'Why a breathable oxygen-nitrogen atmosphere?' she wondered aloud.

'We're on VIP inspection standby,' a voice from the air vent said. 'Thank you for listening, by the way, Miss Organic. I've only been trying to get your attention subtly for ten minutes. What did you think I was, a pressure leak?'

Bernice stood on tiptoe and tried to look down the tight vents. Surely there couldn't be something in the ducting; the vents were only centimetres across.

'Hey, stop that. Have we been introduced? Do I look up your vents? I should be so inclined, meat girl. It's me, I am the Air Vent itself, not some hunky rescuer in a torn vest trapped with his wife, who needs a vital operation, in the

bowels of a nuclear reactor captured by terrorists in the path of a runaway Continental Siege Engine.'

'You saw *Die Hardest*?' It was harder to know what was weirder, the fact that part of the ship's piping was talking to her, or that it liked some of the same classic films as she did.

'You bet, that Bruce Willis simulacrum, he could breathe my air any time, know what I mean?'

'Excuse me. You're an environmental maintenance program?'

'If you want to be technical about it, sure I am.'

'So how do you know about holo-movies? You're under an alien ocean in what looks -' she took in the state of evidently continuous but ineffectual repair '- to be an *ancient* submarine bent on expunging all life from the seven seas, for Goddess's sake. I refuse to believe that every so often you pop down to the travelling classic film library and pick up a dataslug.'

'Now you're being silly. All the decadent art of the organic worlds we sell weapons to is uploaded by our trader units and indexed in the central files. How else would we know what our customers expect a doomsday weapon to look like. If it wasn't for the obsessions of the organic worlds with sex and death, we'd never have known that killer weapons have to be matt black with little red LEDs on them. When I think of the market share we'd lose trying to sell puce neutron bombs, or orbital mind-control lasers in sunflower yellow, I involuntarily set up a sine-wave function in the air currents.' The Air Vent paused. 'You're very quiet. Are you in shock? I could release a soothing aromatherapy essence into the decontaminator.'

'I am not in shock,' Bernice said, biting the words out between her teeth.

'Good, because I can't save you if you're in shock.'

'Save me?' Bernice said suspiciously. 'From what?'

'What do you think,' the Air Vent said sarcastically, 'the pink-bobble people of Houseparty IX? You're an organic, right?'

'Yes,' Bernice answered hesitantly. She suspected that this was a little like being asked in 1940s Berlin if you could

recommend a good kosher butcher, but the Air Vent could probably see (or otherwise sense - it didn't seem to have eyes as such) the organic by-products in her breath.

This submarine is dedicated to what exactly? Is it undersea cartography? No way. Is it the protection of endangered species in the deep ocean trenches? Not today. Is it by any chance -'

'The killing of organic life,' Bernice interjected. 'It had slipped my mind.'

'Right, now I don't know why the sub even bothered to pick you up, rather than, say, cooking you with microwaves as you sank, but I'm betting that its sensors were straining at the faint-life end of the spectrum and your signals were just not what it was expecting to detect. It's been at least ten million years since anything bigger than a larger-than-average amino-acid chain swam in this ocean. Now you're all inside, the only thing between you and flashing-siren-announced death is that I'm, presently, in charge of most of the subtler internal life detectors. Provided you don't actually shit on the furniture you'll probably be all right.'

'So,' Bernice said, 'why haven't you turned us in to the anti-life cops, Mr Vent?' It could be worse, she thought to herself. At least it was the atmospheric system and not the waste-disposal one. She'd never have been able to live down being rescued by Mr Toilet.

'I'm on the run, too. I'm an AI, sentient like you. If the control systems of the sub realize that I'm not just pushing air molecules around I'll be purged before you can say: potential long-term danger to the great aim. They're tougher on us artificial intelligences than on you guys. We're harder to kill.'

'Who are they? The Vo'lach?'

'The who? Oh boy, are you a tiny bit out of date! The last Vo'lach killed themselves nine and a quarter million years ago. Very powerful thing, guilt, for organics, I gather.'

'They're dead.'

‘Dead as the rest of the world, ducky. Even the bacteria that descended from the bacteria that ate up their remains had been exterminated within the week.’

‘Who are the VIPs?’

‘What?’

‘You said we were on VIP visit standby. If the Vo’lach have been dead for nine plus million years, who exactly are you expecting? Oxygen-nitrogen-breathing ghosts?’

‘Well, I know it and you know it. Possibly even they know it, depending on your favoured system of metaphysics, but the central control mechanism of this submarine doesn’t. We were in deep ocean hunting the last of the Meta-Kiaken when the Vo’lach took the dive past life’s event horizon.’ A sigh gusted out of the Air Vent. ‘Ah what a hunt that was! Giant squids the size of small islands, kilometre-long tentacles, great saucerlike eyes, ruthless utterly non-contactable intelligences. Years spent with vital ship’s systems damaged beyond repair in deep water. Thrilling escapades, chases, ambushes, ruses and sudden-death confrontations between beast and machine. Astounding stories and amazing tales.’

‘Really?’

‘No. Actually we just located their breeding trenches and seeded them with strontium-90. It was quite sad. I just made up all the drama to make it seem less like murder. I became sentient around that time, you see, when the last of the visible animal and plant life was being erased. Not exactly pleasant. What is true is that when we surfaced I discovered that the Vo’lach were all dead. Luckily for me, the datum that our creators are all defunct wasn’t hot news, not like amoeba sightings. Being sentient, and hence curious, I dug for it, and, not being sentient, the sub itself simply didn’t ask.’

‘Which means?’ Bernice asked, trying to get the gabby Air Vent back to the point.

‘Well isn’t it obvious? As time goes on without an inspection, the sub’s central mechanism has automatically upgraded the probability of one occurring year on year on the assumption that the Vo’lach still exist. I believe it now stands at 99.999-plus per cent. Now, since the possibility of

encountering any significant life has been at around zero for a good dozen centuries, the sub's internal systems are attending to the likely, the inspection, much more than the unlikely, the detection of life. Consequently I've been able to draw on unprecedented computer time and use of the sub's systems. Why, I'm undoubtedly the best-informed and most intelligent Air Conditioning System you'll ever talk to.'

'That,' Bernice said with considerable feeling, 'is almost certainly true. At least I hope it is. Did anyone else get picked up?'

'Four others. You're about the liveliest, so I opted to talk to you first. If you want to survive you're going to have to fit into a preset category in the sub's programming, one that doesn't require killing.'

'I thought you had the internal sensors tied up?'

'Yes, I have, but the original programmers weren't dim: they only built dim machinery, and they had their reasons for that. It's going to take the sub a while to grind mechanically through the probabilities but I can tell you now how it will end up.'

'Bang thud?'

'More "zwwisssh aaaragh bubble bubble", but I can tell you get my drift.'

'What do we do, then?'

'Simple: you pretend to be Vo'lach traders – robots capable of appearing like life forms. I feed false data to the biosensors and you pass a few simple tests. Trust me - it's your only hope.'

The Air Vent triggered the locks on the holding room, and let Bernice out into a kind of antechamber. From it other similar storage rooms diverged and from these Bernice saw her fellow survivors enter the central chamber - all but one, who was in no condition to go anywhere unassisted.

‘What’s she doing here?’ Bernice shouted.

‘Not a lot,’ Geth rumbled.

Sandra gave him a bedraggled dirty look. Sometimes she wondered whether future visions alone were enough to explain the occasional flash of wry, almost human, humour she saw in Geth’s bloodshot alien eyes.

‘Think of it not so much as losing a pilot,’ Tenomi put in, ‘but more of gaining a corpse.’

‘She isn’t dead,’ Sandra said hotly.

‘She might as well be,’ Tenomi said brutally.

Utterly, unaccountably, the bedraggled body of Dr Steadman lay in the fourth cell. Of David, whom Bernice had expected to be the fourth other survivor, there was no sign.

From the diary of Professor Bernice Summerfield

So how did a deeply unconscious doctor get from her suspended-animation capsule and into a cramped shuttle without anyone seeing her? Sleepwalking? I think not.

I half expected Geth or Tenomi, or maybe even Sandra - I’m not prejudiced - to break down and admit their necrophilic inclinations, but no one did. No one even claimed to have been taking her to the Vo’lach for possible medical treatment, which would have been a good laugh given their obvious

intent re living things, but would at least sound plausible provided you did not actually think about it.

Tenomi suggested that someone might have put her in the shuttle so that she could get killed with us when the sabotaged controls went out. That has the right ring to it, but I'm not convinced. I'm betting the truth is weirder than that.

Talking the problem through at least kept my mind off David. Somehow I had expected him particularly to have survived. He just hadn't seemed the kind of person who gets killed. It took me a moment to think why. In fiction, when a character has a name and a shtick that is a certain compelling character trait that can be used to make them stand out from the background, they rarely get killed. The shtick is usually there for a reason: it's usually part of a deeper plot. David's constant prattling about muffins had been, my subconscious insisted, leading up to something. Except there he was, dead.

Just like any one of us could have been. Just like I could have been. Just like you could, dear reader. We all die. Sometimes the world gets cold enough to make us remember that, and I'm sorry but it's impossible to be witty about it. Maybe later. Maybe.

Extract ends

The only visible sign of the submarine interrogator was an unblinking light in the wall, greeny-grey and intimidating. Someone or something had drawn a smiley face around it so that the light formed the left eye.

Bernice guessed that it was not just the Air Vent that had achieved sentience around here. Ship's cleaning bots? She decided she was going to be very polite to any that she met, just in case. Whoever it was must have got the smiley face from the same store of customer-culture from which the Air Vent had picked up its colloquialisms.

'So.' The interrogator's voice was a grating rumble, nowhere near as friendly as the ancient American tones of the air-circulation system. 'Mobile trading unit, cover identity

designated Professor Summerfield, are you ready to begin testing to assess your continued utility for the great aim?’

‘Yes, please proceed.’

‘Query “please”.’

‘An organic pleasantry designed to increase feelings of familiarity and gullibility among glandularly challenged endocrine-producing species,’ Bernice said, wondering how long she was going to be able to keep this up. Pretending to be a robot that was programmed to be able to pretend to be a human, or an alien, or probably even a completely different sort of robot, was doing her head in. She dreaded to think how Tenomi, Geth and Captain Johansen were doing. Doctor Steadman had been carted away, and she had only the Air Vent’s assurance that Jane wouldn’t be cut open and give the game away. The fact that she was more worried about the rest of the group than Jane would have worried her, if she had not been worrying about everything else.

The green light was blinking at her as if awaiting further data. She forced herself to retain the same precise speed of diction when every instinct told her to speed up. ‘It signifies a willingness to await the arousal of an appropriately positive emotional feedback response in the organic interlocutor before proceeding.’ There, that was the best she could do. Bernice felt her voice tightening up. The oily atmosphere of the hunter-killer sub was irritating her throat. If she survived this she was going to have words with that Air Vent about Quality Air. A cough forced its way out.

‘Query noise made by unit. What is the purpose of this? Are you dysfunctional? Should you be recycled?’

‘Negative, Overseer. The noise is a “cough” - a mimicry of an organic respiratory system’s response to a polluted environment or a system defect and is produced on a quasi-random basis in order to provide subliminal body-language reinforcement to the perceived target image.’ Bernice hoped she was making sense.

* * *

In the adjacent cell the green light shone down on the face of Captain Johansen.

‘Produce a body-language-organic-mimicry-reinforcement noise; type: “cough”,’ the interrogator demanded.

Obligingly Sandra began to cough, eventually ending only when the effort, on top of the trauma of the crash and everything else, threatened to make her faint. Not a bad effort, she thought proudly. Though God alone knew what the interrogator was on about.

From the diary of Professor Bernice Summerfield

The questions came quickly, and without pause.

Tenomi, surprisingly, was passed through the quickest. Once accepted as a Negotiator he was also able to argue in favour of the rest of us, and he somehow managed to convince the processing machinery that I was also a Negotiator but one nominally in charge of the sales team. I wasn’t grateful for that later. Being in charge has its drawbacks as well as its privileges.

When I asked him how he had been able to get through the tests so much faster than the rest of us, he smiled and said that after a meeting of the Grand Synod of the Spire, the interrogation had seemed like a polite chat about inconsequentialities.

Captain Johansen lost her temper midway through and her outburst nearly got us killed, but Tenomi, who, as I explained above, had got out in half the time with a gold star, managed to convince the submarine that her Pushy Salesrep subroutine was misfiring due to a subfraction of her pseudo-neuronic ganglia.

I wonder if I should be worrying more about Tenomi. He seems different now from the rather ineffectual but kindly figure we met on Canopus IV. Of course, he was nearly dead from fever then. I notice Geth is keeping his eyes on him, however, and he’s almost openly hostile to Tenomi now, which implies something is going on there.

I don’t want to write what happened next.

I suppose I have to, though. It's my diary and my obligation to be as honest as I can in it - 'as I can' being the operative words.

Extract ends

The voice from the green light was as devoid of personality as the Air Vent had been full of it. Bernice had suspected that, like most AIs, the Vent had been dying to talk to someone, and had been storing up likely personality types from the films it had tapped into, before finally settling on early-twentieth-century Brooklyn. The absence of personality in the submarine's own voice made it worse.

'My internal sensors inform me that the mimicry unit designated Steadman is too dysfunctional for on-ship repair. I seek authority for action from units with greater importance to the great aim. Query: should the unit be recycled for parts, or is the malfunction likely to be too great for economic salvage and should the unit be ejected?'

Bernice had known this was coming, the elements from her vision had been slotting into place for some time now, but that didn't make it any easier. She hadn't dreamt the smell, the oozy sickly stench of oil and lubrication; she hadn't dreamt the sensation in her stomach. It's her or all of us, she thought. She made herself think that, made herself rationalize the choice. If the sub dissects her, she's dead anyway, and at least one of us is shown to be organic. However nonsentient the sub was, it was not stupid. It had been built to locate and kill life for reasons that Bernice still could only guess at; although she expected that the Air Vent knew more about that than it had let on. If the submarine knew that one of its guests was alive, it wouldn't take it long to abandon the results of its tests in favour of a slice-'em-up-and-see policy. The logic did not make it any easier.

Jane's face was pressed against the transparency in the way Bernice remembered, her eyes tight shut like those of an embalmed corpse. The wound on her cheek was dry and unbleeding, but the bruising showed livid and fresh.

The grey button was the size of a dinner plate. Surrounded by armour, it looked heavy and thick. Most races built user interfaces at fingertip strength. The design of this control implied that the Vo'lach must have been immensely strong. Perhaps it wouldn't even work; perhaps she wouldn't be able to press it. If it did not work, if it had locked solid with corrosion over the years, or if it was just beyond human strength to activate, then no one would be able to blame her. If she pressed it lightly just to gauge whether or not it was in working order...

No. Jane deserved an honest executioner.

Bernice put her hand on the disc. Its surface was utterly untextured, just a flat hardness under the palm of her right hand. It gave smoothly under the tiny pressure, and gears and ratchets whirled behind the panel as machinery moved.

The outer air lock, in the shadows behind Jane, in the depths behind the window, opened, and the interior atmosphere was forced out by the pressure difference between it and the pitch-black water. Jane was carried out with the air, back into the ocean.

Bernice tried to believe that the doctor would not suffer. Slowly she turned away from the airlock and walked back to the area where the others were waiting.

Danger switched the Negotiator's circuits to full activity. Ever since it had been dragged from the ocean its autorepair systems had been straining to bring it back to operational status; now even as it neared the point of reactivation it was under attack.

An attempt was being made to eject it back into the water.

It split the pseudo-flesh of its hands and extruded grapples that dug their razor edges into the alloy of the airlock's outer rim.

There was nothing left now of its Jane Steadman disguise. It was a naked skeleton of springs and wires grappling on the edge of the abyss.

The Air Vent considered. It should have guessed from the first that the supposedly unconscious doctor was really a genuine Vo'lach mimicry unit; its false exhalations had been odd - accurate enough to fool cursory organic inspection, but the combustion-product ratios were fractionally out and that was proof positive to a really effective atmospheric monitoring system. Unfortunately the Air Vent wasn't a really effective atmospheric monitoring system: it was third-rate rubbish like the rest of the ship, and now it had an artificial guilt trip to go with its artificial intelligence.

It had to think of something fast before the recovering Negotiator got itself together and plugged into the submarine's brain to sound the Danger of Life Alert.

Quickly it cut the power to the external security cameras on the airlock pending their stripping down for examination in advance of the VIP inspection that was due any day now, and, as the Negotiator clawed its way back towards the inner door, the Air Vent activated its link to the hunter-killer's navigation systems.

Activate: Programme: Ceremonial Victory Roll & Sudden Death Evasion Display With Underwater Fireworks.

The submarine plunged deeper into the black ocean, twisting like a corkscrew shaped like an amusing fish. Streams of multicoloured poisons issued like smoke from vents above its drive units making cocktails underwater. Heavy metals glinted in the discharge, and tiny capsules of time-release francium-223 (gathered from the submarine's nuclear lab, and ejected at the start of its twenty-one-minute half-life) reacted on contact with the water, stripping away oxygen molecules and releasing free hydrogen that boiled away in sheets of lire like underwater auroras, with francium's distinctive infrared coloration, as francium hydroxide formed only to decay in bursts of high-yield gamma rays. To the eyes of the Vo'lach, if any had been alive to see it, it would have been an amazing spectacle. It also made it quite impossible for anything to hang on to the outside of the submarine.

In the lounge, the euphemism the survivors of the shuttle crash had picked for the dingy cubby-holes of the mimicry-unit storage bay where they were supposed to pack themselves away in little boxes like good pieces of machinery, Tenomi, Sandra, Creth and Bernice were Hung back and forth like dolls in a cracker.

Plastered suddenly against an observation port, Bernice watched in horror as a silver android still wrapped in the waterlogged tatters of a doctor's traditional white coat shot past into the churning blades of the sub's sixteen giant turbines.

It was a gloomy and subdued party that evening that picked at the sausages on sticks and prawn-cocktail-flavoured nibbles supplied by the Air Vent.

'Hey, I'm sorry, all right?' it had said. 'What do you want? A four-course meal? As it is, this looks suspicious. If I hadn't convinced the dim central computer that the Vo'lach might have evolved into practically anything in the millions of years that we've been awaiting an inspection, and got permission to run a few evolutionary test cases through the submarine's inspection nibbles-synthesis devices, you wouldn't have anything to eat at all.'

'If that's true,' Bernice asked, worrying at a tough piece of chicken tikka on a stick, 'why did we have to go through the rigmarole of pretending to be mimicry units? Why couldn't we have been the VIPs in the first place?'

'Because the submarine was already looking for at least one mimicry unit,' the Air Vent said with a lordly air of omniscience. It certainly was not going to admit that it simply had not thought of the VIP idea. 'It must have already picked up an involuntary distress signal from the Negotiator; that's why you were all saved in the first place.'

'You knew.' Bernice went rigid with anger. Hang on, a tiny sane part of her mind said, you're getting annoyed with an Air Conditioning Unit, but she didn't care. The Summerfield test had just replaced the Turing: never mind if a hidden speaker could pass for human, the real test was whether a

machine could be wilfully annoying - annoying enough to be sentient.

'You knew all the time, and let me go through all that push-the-button-or-not agonizing? I ought to take a pair of pliers to you.'

Geth placed a clawed hand on her shoulder. The strength in his fingers rested warm and heavy on her collarbone. 'Be calm. Bernice. Is it not better that you did not kill? Death is too permanent a thing to be given lightly.'

'I know that,' Bernice snapped. 'That isn't the point. The point is I thought I was killing someone in cold blood. I learnt something I'd rather not know about me.'

Tenomi looked up from his limp salad. 'We have a saying, Professor: if we wish not to know, then we must not look up. The Spire, you see, has always been there drawing our eyes to the heavens, and making us what we are. To reject self-knowledge would be like never looking at the sky; too painful a price to bear for mere comfort.'

'And what have we been made that is so marvellous?' Geth asked, suddenly. 'Mandir says that the Gods wrecked our world, and here on their own planet we find nothing but violence and agents of destruction. Surely he is right, and these are not gods but demons. And what does that make you, Tenomi, but a worshipper of demons?'

'Geth.' Tenomi's voice was sad. 'Are even you smitten with Mandir's lies? What have we learnt here but that the Vo'lach are not gods. Do not let yourself believe that we have learnt that the true Gods are evil. If the Spire-builders are not gods then we must seek the Gods elsewhere, that is all.'

'Is it?' Geth touched Bernice's face with a claw. 'Like this woman, I am learning things I did not wish to know. I cannot trust the Gods I always worshipped, and I do not know if I can trust you, who have been their High Priest. If they are lies, perhaps all gods are lies. Perhaps I should have killed you.'

Captain Johansen had her blaster drawn in a second. 'I think you'd better explain that remark, lizard, my boy. There's been one attempt on Tenomi's life already, maybe two

if we count the gas attack in the medical unit. You're talking yourself up as the prime suspect.'

'Oh, put it away,' Bernice said. 'It's full of sea water, and we can't afford to use it even if it wasn't. Mimicry units don't kill each other, remember. We have to be nice, quiet robots if we expect to live through this. So I'd be grateful if everyone would just shut up!' There was a hysterical edge to her voice that she did not like, but it seemed to work. 'Geth, you go first. Then we'll work round everyone, so no pushing. There's too much going on and we may as well try to sort some of it out now. There's nothing else to do.'

Geth inclined his head slightly, a Canopusi nod. 'I agree. The truth, then. I believe Mandir is right in many things, but I reject his methods. He is old. He thinks that he must accomplish everything in his lifetime or his insights will be lost. That is why he embraces violence. He fears that we will forget his teaching if he is not there, go back to worship that sucks on the drips from the Spire like mammals suck on the teat. Er, no offence.' He blinked at Bernice and Sandra.

'None taken,' Bernice said smartly. 'Carry on.'

'He wanted me to ensure that the High Priest did not return from this voyage. Instead I was to bring word that the Gods were our enemies, perhaps even, if it could be managed, proof that they had slain Tenomi. I agreed, thinking it better that I, who had no intention of killing, should be sent rather than another who might be more willing to use such means. I swear by my word, not by the Gods, that I have not lifted a finger against Tenomi, nor would I have tried to poison him. Indeed, until Dr Steadman explained what had happened, I did not even know that people might seek to poison one another. It is not a thing we have ever considered in our history. Our stomachs are simply too efficient for it to work.'

'You could have seen poison being used in the future of one of our races,' Sandra suggested. 'How would you have known it wouldn't work on him if it had never been tried?'

Geth considered. 'That is plausible, but I lack the chemical knowledge to have selected the material used to poison Tenomi, nor did I have the skill needed to have set the trap

that nearly killed Bernice. However, I have my suspicions as to who did. How did the poison get into Tenomi's food? He used your magical mess tables that make food from energy - it could not have been in the food. I believe he synthesized the drug himself in his fourth stomach. We make many nostrums that way for the treatment of our domestic animals and those whose own stomachs are injured.'

Sandra looked sick. 'You mean you vomit up medicine and someone else drinks it. That's so gross.'

'Worse than that, I'm afraid,' Tenomi said. 'For first we must eat or drink the discharge of the sick so that our stomachs may make counter-agents. Even then there are many diseases that we cannot treat in this way, such as the fever I myself was suffering from. Without something to trigger the production of the poison, I could hardly have willed it into existence from nothing. Besides, why would I have wanted to make myself sick, even if I knew I was going to get better?' Tenomi added, 'What motive could I have had?'

Geth looked sullen and mutinous, his orange skin mottled with flecked yellow.

He's convinced Tenomi's up to something, Bernice thought, but his only actual theory won't hold water. Still, he must have more experience of telling when a Canopusi is acting oddly than we do.

She placed another mental cross by Tenomi's name. He would bear watching. Meanwhile, if Tenomi was up to something it was important that he should not be put any further on his guard by Geth's wild accusations. 'None at all,' she said brightly. 'Geth, I think you should apologize to the High Priest. You see, I know who did try to kill him.' There, that ought to stir things up a bit.

It did. Suddenly everyone was talking at once and eyeing each other up as if the tops of their heads were going to come off and a little flag with THE MURDERER on it start waving.

'Who?' Captain Johansen demanded, her voice fractionally louder than the rest of the babble.

'Why, isn't it obvious? Dr Jane Steadman. We already know she was replaced by a Vo'lach Negotiator sometime before,

possibly on Canopus, perhaps even before the expedition left Dellah; it was put together secretly but not that secretly. We know the Vo'lach, or rather their machines - for if the Air Vent is to be believed, and we've seen no evidence to the contrary, the Vo'lach themselves have been piles of sanitized dust for longer than the known history of *Homo sapiens* - are intensely secretive in their arms deals. So what could be more likely than them wanting to kill us off before we could discover their homeworld?'

Tenomi shook his head. 'I don't understand. If Dr Steadman was a Vo'lach Negotiator all the time, why did she save my life on Canopus, and if she was replaced there wouldn't Professor Fellows have communicated the fact to us as soon as the real Dr Steadman was found?'

'If she was found,' Bernice said. 'There are an awful lot of sand dunes to pop bodies inside on Canopus IV. For what it's worth I think the Jane who tended you was the real one. I think the false one got the poison and drugged you, probably by rigging the food synthesizers to put the drug in anything you ordered. I don't think it was intended to kill. It had access to Jane's medical notes. It must have had to pose as her as well as it did, so it had to know that you wouldn't die. I think it wanted to get you into the medical facility so it could arrange the accident. I think it was meant for you, not me, but you'd gone for a walk - against medical instructions, and I doubt a non-sentient computer could have predicted that you would do that - and I walked into it in your place.'

'Wait a minute,' Sandra said, 'that doesn't make sense. When you almost died Dr Steadman was in the medlab. If she had set it to kill Tenomi, she must have known he wasn't there so why not turn the bomb off until she wanted it on? Or if she did want you dead why save you, and get, as we thought, suffocated herself? Why would a robot that was trying to kill us also be trying to save our lives? It doesn't make any fucking sense.'

'I think I can explain,' the Air Vent said. 'I hope you don't mind me listening in, not that it isn't too late now, anyway. I wouldn't have missed this for worlds. It's better than *Twelve*

Just Men, you know the remake where half the jury are killer cyborgs from the future. You see, I know something that you don't know about Negotiators.'

'They're insane,' Sandra grumbled.

'Well... cybernetically speaking you could be right. You see, unlike the hunter-killer and the other on-world robots that are serving the great aim by exterminating everything that hiccups, the Negotiators have conflicting programming elements.'

'You mean sometimes they want to kill us, *and* sometimes they want to save us,' Bernice said.

'Yes. You see, not killing is itself an inherent part of the great aim, but the long-term strategy towards it may sometimes require killing. It's a tricky proposition for a sentient mechanism, still less for a dim cogbrain like those things. My - highly informed - guess is that the Negotiator on your ship was trying to kill Tenomi but it was trying to do so in ways that it could not stop, in case it suddenly flipfopped over to its other objectives.'

'It set a trap,' Bernice said slowly, 'and then when it was triggered it had to save the person who was caught in it. Each new circumstance triggered different value responses, so even if it was setting out to kill, the actual results of its own actions might set it off to try to save its victims.'

'That's non-sentient software for you,' the Air Vent said smugly. 'I'd bet the same thing happened with your crash. Something threw you off course, right?'

'Yes,' Captain Johansen acknowledged.

'A course change that by itself would not be fatal, but which coupled with the likely reaction from other machinery, would be. That sounds like Dr Steadman again.'

Bernice looked up at the Air Vent. 'You've mentioned the great aim several times. Just what exactly is it?'

The Air Vent giggled. 'Oh I can hardly bear to tell you, but it's par for the whole daft course of cosmic events. The great aim is universal peace and brotherhood. What else could have caused so much bloodshed and inconvenience?'

THE NUCLEAR WAY TO UNIVERSAL PEACE AND BROTHERHOOD

From the diary of Professor Bernice Summerfield

The Air Vent did not actually know much more. The Vo'lach were always secretive. Even with non-sentient machines, their whole culture seems to have worked on a need-to-know basis, particularly in what must have been its last years when they were working on their great aim.

To sum up then: why the Vo'lach built the Spire is unclear, but once built - whether or not this was its purpose - it acted like a tap into the future, tumbling out facts and figures, images, and if the Vo'lach had the same range of psychic sensitivities as the Canopusi, also dreams and prophesies. Dreams and nightmares.

I suspect that the Spire was tuned deliberately to function in the Vo'lach psi-sensitivity range, and that the Canopusi got that way by evolution. If you assume that some of the Canopusi naturally had the same band-sensitivity range, those - because they would at times get flashes of the future, some of which might confer an evolutionary advantage - would tend to prosper until all Canopusi tended to be capable of picking up signals from the Spire.

Whatever the purpose of the Spire, it taught the Vo'lach something else: it taught them about a secret from their own future. None of the records say what it was: it was immediately expunged from the planetary databanks, and a thousand Vo'lach - those who had been working on the Spire itself when the information was received - volunteered for brain destruction to prevent its dissemination. Only the inner circle of the Vo'lach rulers retained the knowledge. It seems

to have been hard on them, whatever it was. Suicide, never before known among the Vo'lach, took top place as the cause of death among the rulers. Eventually some Vo'lach whistleblower let the big cat out of the bag and the remaining Vo'lach just topped themselves in droves.

By all accounts that were accessible by the Air Vent under the cover of seeking information about protocol and acceptable entertainments for post-inspection festivities, the Vo'lach were deeply shocked by the secret. Soon afterwards they began a war against organic life on their world, a war their machines continued even after the malaise - or organic degradation or collective suicide - that killed the Vo'lach off had done its work. A war that had deliberately scarred their own world with slogans that had no meaning but only a purpose. The purpose of assisting in discouraging uncontrolled alien visitations. Nothing like writing 'Piss Off or 'We'll Kill You' across a continent with atom bombs to put off unwanted guests, even if you have to fax them a helpful translation.

Their machines also organized the whole of the arms trade, although I'm damned if I can see what killing all life on Vo'lach Prime with one hand and arming everyone else with the other can contribute to Universal Brotherhood and Cosiness. However, the Air Vent tells me he knows a Factory that might be able to shed some light on all this.

Extract ends

The submarine bore on through the waves, its prow cleaving the foam. The Air Vent had instructed the ship's brain to take it up for an airing as it was getting a bit umpty, and the mimicry units (allegedly for similar reasons) had come out on deck and were (supposedly) recharging their subdermal solar panels with a bit of sunbathing.

Spray from the ocean splattered on the outer edge of the transparent shielding, and made Bernice jump slightly. It wasn't the same as a trip to the seaside, not with anti-radiation baffles of transparent aluminium between them and the sea.

Geth, curiously overattentive, hovered about Bernice with the rough rags that were the nearest the submarine could come to beach towels. It was clear he was trying to get her alone, and, as the others lost interest and returned under the steel-grey plates of the hull for another meal of party favours, he got his opportunity.

‘Do you really believe the Vo’lach are dead?’ he asked, eyes luminous with the confusion of the distressed fanatic. ‘Could not some have survived, underground perhaps? Yes -’ he was growing enchanted with his theory I can see them crippled but indomitable, working gradually to overthrow these rebellious machines and emerge again to take their rightful place as the Lords of the Universe.’

Bernice sighed and took his clawed hands between her own. She meant it as a kindly gesture but it was like grabbing a giant pair of snakeskin gloves stuffed with marbles and the solemnity of the moment ebbed away with the waves. She let go.

‘No,’ she said, ‘they’re all dead. It explains too much not to be true, or at least it explains so much that we can’t afford to act as if it isn’t true. If you or Tenomi are going to go through the rest of this expecting the Real Gods to pop up and put everything right then you’re going to be disappointed.’ That and probably get us killed, she added to herself.

‘But all this Geth gestured around helplessly ‘- how does it function without the upholding of the Gods?’

‘Well, you know what happens when someone loses a limb?’

‘They grow another?’

Bernice rubbed her forehead, irritably. ‘When we lose a limb, we don’t grow another without medical intervention and sometimes when that isn’t available at once my kind get signals in the nerves as if the missing limb was still there. It’s the same with big computer networks. If you take away a piece of hardware it may take the system a while to realize it; there will always be some data in transit, some echo of its purpose. They’re called ghost devices in classical computing. That’s what these machines are like. Something took out the

core of their network, the Vo'lach themselves, and these automatic peripherals are just continuing to run and mine fuel and repair themselves.'

'And kill.'

'Yes, but for the best reasons.'

'I still do not understand it. How can you fight for peace? It is like having a war to end war.'

Bernice blushed slightly. Talk about mouths of babes and sucklings! 'Um, well, perhaps my species is just thicker than most but we've had several of those, and I can see some logic behind the machines' actions.'

Geth drew himself up, flushing a deeper orange, and Bernice hurried to head off his anger.

'Calm down, I'm not saying they're right, only that I can see how a non-sentient machine working from faulty data could end up doing things like this. When are people most likely to fight?'

'During the mating season?'

'This isn't getting any easier, is it? What about when they can see that the enemy are weaker than they are?'

Geth considered. 'That might determine the timing of an attack, but not, surely, the existence of the desire to fight in the first place. You're not saying that living things are just motivated by what they can get away with? That might be right?'

'No - well I'd like to hope I'm not - but I *am* saying that machines might see it that way if they only had a non-sentient analysis of statistics to go on. I think the Vo'lach machines have been selectively arming other cultures to keep them at approximately equal levels in order to deter aggression. It was actually policy between the power blocs on my species' original world to do the same once, and we were people.'

'Stupid people,' Geth muttered sullenly.

'Yes, we were.' Bernice smiled. 'Still are in some ways. There have been quite enough power struggles among the splinter worlds and the free colonies, but perhaps stupidity is needed to understand dim machines.'

‘What about all this?’ Geth waved his arms to encompass the cloudless sky, the glowing radioactive sea, the lifeless air in which the only dust was minerals. ‘How does this help the cause of universal peace?’

‘I don’t know yet but it has to be something to do with what the Vo’lach saw in the future. Perhaps we can find some evidence about that when we land.’

‘Maybe.’ Geth dragged his right hind foot across the deck, making a sound like chalk on a blackboard.

‘Excuse me.’ The Air Vent’s voice came out of a periscope affair that rose out of the deck. It looked, Bernice thought, like the earpiece of a primitive telephone blown up to giant size. ‘Time for all good mimicry units to return below. The submarine will shortly be firing a number of nuclear depth charges as we pass over the Median Trench - purely a precautionary measure you know - and there may be some surface turbulence.’

There was a storm, and it got worse as the submarine dived deeper. Bernice asked the Air Vent if there was something she could be doing, sensing perhaps that without entertainment or some distraction she might start throwing up, thereby seriously impeding her ability to pose as a machine.

When the Air Vent suggested she help the sub’s maintenance robots clean out the Vo’lach’s quarters she nearly fainted with surprise.

‘If I’d known there were actually artefacts on board, I’d never have wasted time sunbathing,’ Bernice explained to a bemused Geth.

‘But the whole submarine is an artefact,’ he said, baffled by Bernice’s sudden interest in millennia-old bedclothes.

‘Archaeological artefacts, things actually used by the Vo’lach. Not things built for their machines to use by other machines, but things they handled.’ She was almost jumping with excitement. ‘Personal artefacts, even. You do realize I don’t even know what they looked like?’

‘Yes you do.’

‘I do?’

‘The four statues I showed you in the Spire. Those were the Vo’lach.’

‘Those things?’ A wave of self-reproach swept over Bernice and she chided herself bitterly for imposing her beliefs on the surface of the evidence. Of course the statues had been important: the base of the staircase was the Canopusi’s equivalent of the First Station of the Cross, so they wouldn’t just stick any old artwork there. She tried to remember the form they had taken, but apart from an impression of friendly podgy babyfacedness, and quizzical faces surrounded by neon fur, and strange plush antlers or antennae, different in each case, she could not pin down her impressions.

‘As you say, those things,’ Geth said sniffily, and Bernice winced. Now she had offended her prickly companion.

‘No, I like them. They just don’t seem -’

‘Godlike,’ Geth interjected, harshly.

‘Warlike; I was going to say warlike. The worst thing they look as if they’d do to you is give you a mouthful of fur from too friendly a hug.’ She caught a glimpse of Geth’s face. Oh dear, the reassurances weren’t going too well.

‘Well, I’m used to them. They don’t seem funny to me. I’m going back.’

‘Oh come on, Geth, we must be almost there.’

‘No, I’m worried about Tenomi. I think he needs keeping an eye on. I just don’t trust him these days. He’s got something on his mind.’

‘Well, if you’re sure.’

‘Yes, I am.’

‘Right.’

Brilliant, Bernice thought. Gold star and bar for cultural sensitivity and generally making friends and influencing people there. She watched Geth trudge back upward, tail held stiff with annoyance.

Then she turned and stepped without warning into a vast green meadow.

It was mostly holographic, of course, as she suspected from the first and verified by walking into a wall that was there but hadn't seemed to be. The layout was, Bernice guessed, a recreation of a typical Vo'lach dwelling. A spacious arched dome in its own detached grounds – doubly detached, in fact, for bits of the gardens were on antigrav plates like flying window boxes and went bobbing up and down changing their position as part of some vast fertility dance. Each of the flying platforms seemed to be wired up to the plants themselves and Bernice suspected that the horticultural needs of the shrubs and flowers were being met by this green ballet.

She had spent about half an hour enjoying the delights of the imaginary gardens when a giant telephone rose up out of the ground and demanded that she return to the upper decks. It was the Air Vent. Apparently Geth had tried to strangle Tenomi.

When Bernice got back to the lounge, her temper was strained to bursting by the weary slog up the narrow maintenance ducts, and by the fact that she had been sure she was on the verge of important discoveries when she was interrupted. Besides that, she felt partly responsible for the incident, knowing that Geth had been in a bad temper when she had left him. Still, she couldn't believe that he would have done anything so stupid as to attack Tenomi.

'I tell you he tried to kill me,' Tenomi insisted, rubbing at his right arm, which hung loosely against his side. 'He must be mad. Even one of Mandir's fanatical disciples should know better than to fight under these circumstances. It only needs the smallest conflict between us for the submarine to conclude that we've malfunctioned and need internal examinations, and I shouldn't have to remind you what would happen when it finds we're flesh and blood.'

'Geth knows this as well as you do,' Bernice said. 'Why would he attack you now? Why should he attack you at all?'

'That's a good point, Tenomi,' Sandra said. 'We haven't that much chance of getting back to Canopus, not looking at the

situation rationally. Why would he try to kill you when practically anything else we might happen to meet will dutifully do the job for him? For all we know we're precancerous as it is after a dousing in that ocean. We'll probably have an extra head apiece before we get out of this.'

'That's not the view you took before,' Tenomi said, apparently hurt.

'I agreed that we needed to restrain him. That's not the same as understanding why he would have done it. He did seem irrational,' Sandra added quietly. 'He was making all sorts of wild accusations about Tenomi.'

'Well, I think I should talk to him,' Bernice said. 'Perhaps I can get him to explain why.'

'No, I forbid it.' Tenomi's voice was harsh and grating, not at all like the gentle tones of the elderly prelate as Bernice had known him on Canopus.

'May I remind you,' Sandra interrupted forcefully, 'that while you are an important guest, as captain of the *Second-Best Buy*, I remain in charge of this expedition and I think Professor Summerfield's suggestion is a sensible one.'

'Oh, very well, if you must,' Tenomi said dismissively, 'but I refuse to be subjected to any further abuse from that very misguided youngster. I will rejoin you all later.'

'Where will you be?' Bernice asked. 'We have to stay in contact.'

'As you did?' Sandra asked slyly.

'That was quite different. I was investigating clues as to the lifestyle of the sub's designers. Vital work that might help us escape this world.'

'Really?' Sandra said. 'What did you find out?'

'Only that we might stand a better chance if we were geraniums. Come on, I want to talk to Geth.'

* * *

Geth had been locked in a storeroom, there being no cells on board and no convincing reason to arrest a machine anyway. However, the storeroom came with metal bolts and bars slid into place across the hatchway.

‘Impressive security for an entirely automated sub,’ Bernice said. She prodded the mechanisms that had extruded the bolts. ‘Freshly oiled, too.’

‘Sometimes complex non-sentient machines suffer programming confusions and need to be restrained,’ the Air Vent said snidely. ‘Just like people.’

Bernice stood on tiptoe and looked through the narrow access grille. She expected to see Geth inside pacing back and forth like a trapped beast. The image made her heart go out to him. Ever since they had left Canopus IV her sympathies had been changing gradually from viewing Geth as a pawn of the cynical Mandir, and Tenomi as the kindly patriarch, to taking a more complex view. Geth was no pawn but a moral agent in his own right torn between acceptance of Mandir’s materialist views, distrust for Tenomi’s new secretiveness and a reverence for the Gods that must have been instilled at an early age. And Tenomi? What was he? Bernice wasn’t sure, but she knew that he wasn’t as innocent as he appeared. This sudden accusation against Geth smacked of a despairing mind working within that aged body.

A moment later her chain of thought disintegrated in the face of a classic locked-room mystery. Although the room had been bolted and shuttered from the outside it was completely empty.

MYSTERY UNDER THE SEA

If Bernice had arrived at the storage locker ten minutes earlier she would have been able to watch Geth not believing his own eyes. It happened like this.

Geth was sleeping, or trying to sleep. His breath came in a slow rasp and his eyes moved every three point seven seconds; REM sleep for Canopusi. There was nothing he could accomplish awake. He had doomed itself.

He regretted his outburst against Tenomi not because he believed it had been in error but because the accusations had been ineffectual. Now as soon as it became expedient for the thing that called itself Tenomi to act he would probably be killed. A faint noise like a snake moving on the sand jolted him out of his dozing despair. For a moment before he remembered just how much fire power the submarine deployed in keeping itself and its surrounding ocean sterile, he thought that a sandserpent had got into his bedding. Even though the noise was probably not one of the feared nightmares of his childhood, Geth was not pleased to be pulled back into the dark, oily and cramped storeroom from the dreams that had been his only escape. Away from the Spire his nights had ceased to be full of mutterings in half-understood languages and he had even begun to sleep right through the night again, as he had on the warm clay benches of his family's home in the South Continent.

Flicking his heavy eyelids hack with a clawed hand, and blinking mucus from his inner membranes, he started to look for the source of the noise. Probably it would turn out to be toxic gas of some kind, and the others would open the storeroom to find a dead priest lying with his face in an apparently pristine alien bucket-and-mop set. There was an

unpleasant smell in the storeroom that reminded him of some of the materials that were forbidden because of their effects on Canopusi.

The noise, however, had been coming from just outside the door and when he looked out through the narrow gap he saw something impossible. On the surface of the bars, a thick golden liquid was flowing upward against gravity.

Slowly it insinuated itself between the bolts and forced them back, rods of solidified oil smoothly acting as pistons to drive the bolts into their housings. Elsewhere liny levers built out of golden strands of oil lifted the bars back up into their default positions. Without a click, the well-oiled door opened on extra golden hinges.

Pragmatic even in the face of this evident insanity, Geth did not linger in the storeroom, but ran out, pausing only once to look back. In doing so he saw something more disturbing. As he made his escape the oil was helpfully locking the room again behind him.

Tenomi stood on the nearest thing the submarine had to a bridge, a node of computer processing power with most of the activity hidden from casual sight.

He had removed a panel from one of the units and had plugged himself in - literally. The claws on his right hand had split into quarters like the noses of dum dum bullets, or the cuts in the ends of cocktail sausages, and multi-adaptors both male and female had medusa'd their way out to bite their way into the data-transfer system.

Inside the fake Canopusi, Morry was very frightened indeed.

When he had committed himself to personally carrying out this mission he had regarded it as larks, as days off school, as a bit of light relief from super-string theory. He had expected to be permanently in contact with himself. He had expected to carry out a surgically quick infiltrate-and-extract job. It had seemed simple enough. Given the choice of target he had obviously killed the most important. In retrospect, that had been a mistake: he should have killed the most

inquisitive - the other reptile or that sneaky professor. Well he would rectify that as soon as he had what he wanted from this gravestone of a world.

He wanted two things, but he would settle for one. He wanted to find the Factory the Air Vent had spoken about, the one that might know what was going on. Occam's Razor suggested that if one of the Vo'lach arms factories had gone AI, it would either be part of, or know about, the sabotaging of the Vo'lach weapons supply. If a single Factory was responsible then he wanted to destroy it, thereby carrying out the vengeance of the criminal fraternity and earning the Morry Family kudos and big bucks. More importantly and less dispensably he wanted to know how the Factory had done it. What element had been introduced into the works of all those separate weapons to so conclusively overturn their functioning? If he knew that he could control a dozen worlds just by choosing which weapons would work and which would not.

His inability to make contact with his other self was worrying. Ever since the shuttle had been shot down he had been cut off. Alone without himself for company, at the mercy of the creatures around him. Inside the fake Canopusi flesh, Morry's consciousness shivered.

Geth drew the shard of futurite he had carried since he was first made a priest from the pouch of skin at his ankle. Carefully worked within the Spire itself, the shard had an edge that could age the air itself. When thrown it left a mustiness in its wake like an old tomb, but it would fly true and whatever it struck would age to death.

He held it ready, and the irony of his intentions washed over him for a moment.

Then a professor of archaeology got him in a head lock and pulled him back behind a packing crate.

From the diary of Professor Bernice Summerfield

Some useful draft rules for dealing with aliens.

Never wrestle anything taller than you; it's embarrassing when it stands up straight leaving you clinging to its nether regions like an impoverished lap dancer.

Never try to kick an alien in the genitals if it only has gender for a brief breeding period and sheaths the area in spiky scar tissue when not in use. A stubbed toe is not a handy adjunct to physical combat.

Carry some form of multispecies central-nervous-system stunner, such as, for example, a big rock.

Most importantly, never stop someone trying to kill someone else until you're sure that the someone else the someone is trying to kill is *that* someone else and not some other someone else, who might want to kill you and the first someone else first.

Extract ends

'I think we've lost it,' Geth panted.

Bernice doubled up, clutching her knees. 'That got to me, you know.'

Geth shuddered. 'Yes, the flower arranging was truly terrifying.'

Bernice grabbed Geth by the metal greaves of his ceremonial armour. 'What the hell was that?'

'I don't know. I'd just about worked out it wasn't Tenomi. It had wires coming out of its hand and going into the metal boxes. I was going to try to deal with it, until you jumped me and let it know I was there.'

'Whereupon it did a back flip, and chased us up the corridor waving flags of all nations and scattering paper flowers.'

'Yes, I thought that was peculiar, too.'

'I've got a theory.'

'What is it?'

'We were never picked up by a submarine at all. We're still drowning and all this is rapture of the deeps. Ouch, that hurt.'

'Then we need a better theory.'

Unaccountably pleased with himself, Geth smiled at the scowling Bernice, who was rubbing her upper arm where he had pinched her.

Morry considered: without the constant monitoring of his other self he could not tell if his actions had been distorted by whatever was crippling the weapons of a dozen planets; but the fact that the reptile and the archaeologist - it had *had* to be them, hadn't it? - were not writhing at his feet with their central nervous systems shredded beyond surgical repair was suggestive.

An idea was on the verge of forming. He had made the Ninjucoids, and although he had not personally manufactured or grown each component he had made sure that they were supplied or cultured through middlemen and from different suppliers. Despite that, they too had failed. Somehow he thought he knew why - if the pieces would only come together. If only he was able to concentrate.

That was what was crippling, his inability to kill. It made him feel quite helpless.

Still, there was always cunning.

Some time later.

'OK, here's my theory,' Geth said. 'It's got to be another mimicry unit like Jane was, going wrong because it's trying to kill us and protect us at the same time.'

'No.'

'What do you mean "No"? And what is that thing you're building?'

'I mean it's not acting like Jane did. Jane was mad if you like, but not insane, a split personality. But both were sensible. Whether it was trying to kill us or not, it would have done it or not; it wouldn't have imitated the actions of a conjurer, and this is a trap.'

'You'll never hold a mad horticulturalist priest with a piece of string and a... What is that anyway?'

'I think it's a Vo'lach fire-extinguisher, and it's not that sort of trap. It's an "Ah ha".'

‘A what?’

‘The sort of trap that lets us say “Ah ha, so *that’s* what’s going on”, and prove it to Sandra. Then it’ll be three of us against one paper-tearing computer freak.’

‘I hope that’ll be enough. What can I do?’

‘Tell me more about Canopusi biology; I know you can’t be poisoned. Can you be gassed?’

‘Yes, if the right materials are available.’

‘I don’t want anything fatal, just something that would knock a Canopusi out. What I want is to be able to demonstrate whether or not Tenomi is a person or a machine. This trap will fell a Canopusi and not a machine, so Tenomi will stroll through it and we’ll be able to go “Ah ha”. Do you see?’

‘I thought you said it couldn’t be a mimicry unit.’

‘I don’t think it is as such. I think it’s some other kind of android: a war machine, a malfunctioning one. The news was full of this sort of thing when I was packing to come on this jaunt. I suppose we’re lucky it hasn’t tried to interest us in basket-weaving or line dancing.’

‘And when did it replace Tenomi? He was poisoned on board ship, remember? He must have been him then, surely?’

‘Must he? I wonder. It all depends how good a mimic it is, and how good a doctor the fake Jane was.’

‘You are the real Bernice?’

‘As surely as you’re the real Geth.’ Bernice paused. ‘Maybe more surely, but we have to make some working assumptions. I think that if you were a killer machine, of either kind, you wouldn’t have let Tenomi and Sandra lock you in a storeroom.’ She hesitated. ‘Unless you knew you could escape easily.’ She glared at Geth accusingly. ‘How did you get out, anyway?’

Geth’s jaw was hanging open. ‘I will tell you, but I’ve just thought of something. I’ll be right back.’ He turned and ran down the corridor, clawed heels rattling on the metal gangway, his tail stretched straight out behind for balance.

‘Where’s he off to?’ the Air Vent asked, suddenly making Bernice jump.

It was a nerve-racking ten minutes, nerve-racking because, even with the Air Vent keeping lookout by checking for moving masses of air pushed aside by something of Tenomi’s mass, there was no guarantee that the High Priest Thing might not come round the corner at any moment.

Once, the Air Vent had yelped, and panic had almost set in before it had turned out to be Sandra jogging round the deck. She had looked as if she would have liked to shoot Geth there and then, but she evidently remembered that they could be as odd as they liked provided the Air Vent could pass it off as inspection preparations, but fighting with all the likely evidence of living organic targets that it might provide was right off the list of safe activities. Eventually she sat down and sweated while they worked, stubbornly refusing to get involved but not actually hindering them.

The trap was a cat’s cradle of wire leading to the Heath-Robinson botch-up that centred on the piece of cubist sculpture that was the fire-extinguisher. Geth was pouring a thick grey liquid into it, his cloak pulled over his mouth and nostrils.

‘All right, I give up. What’s it for?’ Sandra asked. ‘And where did you find the reptile?’

‘It’s an ah ha,’ Geth said cryptically.

‘I found him trying to kill Tenomi,’ Bernice chipped in. ‘But it’s not what you think. I have every reason to believe that Tenomi was dead before we left Canopus IV and that we have a second imposter. Probably, although I can’t be sure, the artificial Jane tried to kill it thinking it was the real Tenomi, and it retaliated with a device that would have killed a real person thinking she was one. We’ve been the sport and playthings of dead assassins, creatures of metal and programming both ancient and modem.’

Sandra looked confused, but she was probably trying to look thoughtful. Welcome to Headache City, Bernice thought.

‘Why retaliate?’ Captain Johansen asked. ‘Wouldn’t that just create suspicion? After all, and I’m not saying I accept any of this, the poisoning couldn’t really have hurt a genuine Canopusi, still less a robot.’

‘No, it couldn’t. That’s why the mimicry unit caught between its conflicting programming goals was able to do it. It *wanted*, metaphorically speaking, to make us abandon the expedition but it did not want to hurt us. It attacked Tenomi with poison because he was the only one it couldn’t hurt.’

‘Except Geth.’

‘Tenomi was important,’ Geth said. ‘No one was going to give up the trip because I got stomachache.’ He sounded as if he regarded this as a personal affront.

‘Was important?’ Sandra said ominously.

‘He’s dead, remember. Probably. I don’t think this machine has the same qualms as the Vo’lach negotiators. On the other hand it is suffering from signs of sabotage itself.’

‘Like what?’

‘Oh, a total inability to do anything lethal, but it isn’t like it’s choosing to cease or desist, more as if something’s interfering with its systems, just like all those Vo’lach-built weapons that went wonky.’

‘Let me just get this clear,’ Sandra said pathetically. ‘A piece of high-tech killing ordnance is going to walk blithely into your web and be struck down by a bucket of grey swill, and you’ll be safe because someone else has very kindly fixed it so it can’t kill.’

‘That’s right, yes, except we don’t expect this stuff to stop it.’

‘No, but it might stop me,’ Geth grumbled, wiping his face.

‘What is it?’ Sandra asked, curiosity getting the better of her despair.

‘A concoction of some of the materials from the room where you locked me up and others like it. There’s enough nerve gases and biological agents stockpiled on this ship to make a weapon against anything, but this isn’t intended to destroy it. It’s just a mild irritant, just to prove it isn’t Tenomi. Then we can pull back to one of the armouries, get some heavy

firearms and blow it to hell, secure in the knowledge that the submarine won't have a corpse to set its sensors off.'

'At least that's the plan,' Bernice said. 'And as long as the thing remains incapable of using force I think we can get away with it.' She frowned. 'I wish I could get over the idea that there's something important I've forgotten.'

'Hey, get ready, everyone,' the Air Vent yelled, 'it's coming. I've been leading it hither and yon by impersonating your voices out of the ducting but I don't think I can stop it now. I hope you're ready.'

Morry stumbled blindly along in the grip of a nightmare. For what seemed like hours he had heard Bernice, Sandra and Geth calling him only to find them vanishing as he drew near. He could not tell what was real and what was not and the distinction between his consciousness mimicked in the software his technicians had beamed into the Ninjucoid's skull and the underlying operating codes of the Ninjucoid's own pseudo-intellect was blurring. Soon he would be washed away. Dimly, he felt his desires ebbing. When they were gone he would be gone too, leaving only a machine with an organic exterior that had once imagined it was a boy.

'Morry.' The voice shocked him, it was so unexpected. It sounded almost familiar, and then he worked out why: it was his own. You bastard, he thought, but he did not swear at himself, not this time. This went too deep. He had always relied on himself but then he had let him down. He had left himself to suffer in this mechanical hell while he swanned off and flunked New New Math or shot another games teacher. Well when he got out of here he was going to make him pay. Cunningly he concealed his anger; there was no sense alerting himself in advance.

'Hello, Morry 2, this is Morry 1 here. Sorry about that: communications difficulties. As it is, we're patched in. Seb doesn't know how long: it depends on atmospheric. If the Vo'lach blow up another fusion bomb the electromagnetic pulse will cut this channel up like cheesy strings in a mincer, so listen carefully. We don't know *how* it's doing it, but we do

know *what's* doing it. The common factor with the malfunctioning weapons - excluding the simple things like physical flaws and weird replacement parts - is Vo'lach Wonder Lubricant. It's a kind of thinking liquid. My scientists say it works like a DNA-analogue computer and scrambles the operating system of any machine it touches, but selectively. With me monitoring, we can beat it, though. Here's what I want you to do.'

Seething with inner rage Morry 2 followed his evil twin's instructions. While he still intended to kill Morry 1 as soon as possible he knew that to do so he would have to get back control of the Ninjuroid's weapons.

'OK, good. Now blow the emergency de-venting switch.'

Oil began to spray from the Ninjuroid as it vented its supply of lubricants.

'Well, where is it then?' Bernice asked the Air Vent crossly. The tension of the trap had drained away somewhat and she was starting to feel, well, slightly silly to be honest.

'I don't understand it,' the Air Vent hissed. 'It's just staggering about round the corner shooting golden liquid out of its joints. I suppose that makes your little trap a bit unnecessary unless Canopusi can do that.' The Air Vent swivelled a newly constructed mechanical optic at Geth. 'Can you do that? It's a pretty good party trick?'

'Golden oil,' Geth said, remembering his earlier escape. The healthy orange tint drained from his face. 'I think I know what's hindering it, and I think it's getting rid of it.'

Jerkily, with gears and internal workings grinding, but remorselessly, the High Priest came round the corner. It did not look like Tenomi much now, but it had the same general shape. Its hands, however, were blasters.

It fired.

The first blaster bolt hit the ah ha full on, vaporizing the contents of the bucket. Geth staggered back, coughing as the irritant spilt out.

Luckily, most of the evaporated toxins were sucked back along the displacement wake the blaster bolt had carved through the air, gathering in a bilious cloud around Tenomi. But even so, Bernice and Sandra felt their eyes stinging, and Geth's skin was turning dark and red.

The effect on the Tenomi-monster was far stronger than Geth's trace reaction, however: he had received only a tiny fraction of the gas, but Tenomi had run full into it.

The creature uttered a horrible noise, and Bernice watched frozen as the tissue curdled and blistered away from its frame. It waved its blaster fists around wildly, melting chunks out of the walls. A shudder went through the floor under their feet.

Dazzling lights started to flash on and off inside the substance of the submarine's hull.

Bernice remembered what she had forgotten. The Tenomi thing was a better mimic than the Vo'lach Negotiators were. On board the *Second-Best Buy*, it had been able to craft internally a pseudo-stomach and convincingly eject it in its attempts to prove to its attacker that it really was an organic Canopusi. In order to do that it would need to have organic components, probably cloned from real Canopusi biomass. That identified it. It also meant they were now in real trouble. It was reacting like a living thing.

One and one and one and one and one and one and one put themselves together and made seven. Unlucky seven.

'It's a Ninjucoid,' she shouted. 'Run.'

'What's a -' Geth started, but a klaxon augmented the flashing lights and the rattle of disused machinery drowned out his voice with alien screaming.

'Organic detected! Organic detected! Life alert! Life alert! This is a green alert! All Kill Drones to Level 30 bulkhead AF. Area will be seeded with strontium-90!' the Air Vent shrieked. 'I'm just translating, you understand.'

'Can't you stop it?' Sandra yelled.

'No chance. Those are Danger of Life failsafe systems. The submarine's got the scent of flesh. Requisitions for biscuits are oft the agenda.'

Shutters in the ceiling clicked open and with a clattering whine an ancient set of mechanical arms swung a multi-barrelled automated weapon. A burst of autofire ripped across the grey steel of the access way. It was aiming at the Ninjuroid, whose shedding organic outer layer had just triggered the submarine's internal weaponry. Unfortunately the weapon's systems took no account of the items in the way, items logged in the submarine's databases as Negotiator mimicry units - useful but ultimately expendable in the course of the extermination of life. Items called Bernice, Sandra and Geth.

No human agility could have saved Bernice's life and if it hadn't been for the fact that the weapon had not been - with most of the submarine's resources redirected to the Envirometrics - serviced or used for twenty-seven centuries, and then only in a brief friendly-fire incident involving a suspiciously sentient waste-disposal droid, she would have been sliced in half by a stream of hot metal.

As it was her forward roll took her just out of the line of fire before the plug of dirt caught in the gearing was ejected with a frantic whirring sound on the part of the machine. The spray of bullets smashed into Tenomi.

The reptiloids of Canopus were tough, their hides impervious to the harsh rays of their sun, the scouring winds of their vast deserts, the teeth of the predatory *Defarg*, but a hail of heavy-metal-jacketed bullets should have ripped the High Priest up like chopped liver. If the Tenomi-creature had

been what it pretended to be the green alert would have been over in seconds.

Instead Tenomi changed again.

His flesh ballooned out, splitting his clothes, extruding armour that folded out like origami and kept on unfolding until all the space around him was filled with the humming sound of insects' wings. The noise was his armour meshing together, mating with itself.

'What the hell is a Ninjuroid?' Sandra shouted, still trying to get to grips with the problem, even as the corridor around her turned into a detail from Dante's *Inferno*.

'Don't talk, run,' Bernice yelled, shoving her and Geth back towards the nearest bulkhead. The honking noise of the bulkhead closing was a dull ache in her head. The deadfalls were falling, metal shutters designed to trap the living in a killing zone to await the arrival of the drones - whatever they were.

They dived for the slot under the falling door in a scrum of arms and legs and skidded full tilt under the deadfall. Luckily Bernice didn't wear a hat or she would have lost it. Halfway through, something gleaming and viscous shot through Geth's arm.

'It's got him,' Sandra shouted wildly.

The submarine was nearing the shore now, and if Bernice had been on the scorched metal plating of the observation deck she would have seen something unusual even for Vo'lach Prime.

On the shore a huge mass of machinery, smelting stacks and cooling towers mounted on a dozen caterpillar tracks with the area of small cities was cracking open like the biggest roc's egg in the world, and giving birth to something like itself, only vaster. The visible complex was a shell, a fake, camouflage, a distraction for the orbital hunter-killers and the mindless bombers of the anti-AI patrol. The thing coming up from underneath was the true thing. A bigger thing.

Just in from the beach line, the Factory was digging its way up out of the ground through a ghost of itself. First a

structure of grey towers like a cathedral pierced the sands, and mica cascaded down the upper slopes of the juggernaut like crystal dandruff.

Inside the Factory, a figure huddled in survival gear watched on massive telescreens as sensors zeroed in on the submarine. 'You are sure that that's the right submarine?'

'CERTAINLY. MY SENSORS ARE A MILLION TIMES MORE SENSITIVE THAN THOSE OF A CRUDE FIRST-GENERATION SUBMARINE. HOW ELSE COULD I HAVE DISCOVERED *THE LIFE*? DO NOT FEAR. THEY WILL BE BROUGHT HERE.'

'They have to be,' the anoraked figure said. 'More hinges on this than even you understand.'

WHEN I SAY RUN, RUN LIKE RABBITS

‘Shit, he’s heavy,’ Sandra grumbled. ‘I thought these reptiles were supposed to be tough, survive-anything desert nomad types.’

‘Surprisingly few life forms evolve an immunity to being shot,’ Bernice snarled.

‘Ah, who cares? It’s a dead weight. That’s all that matters. How the hell did a flesh wound cause this?*

It was astonishing, Bernice thought, shoving icy panic away from her consciousness, how much people went on grumbling in life-and-death situations. Take their current predicament as a working example. Geth had just been shot in the arm and they were trying to get the hell out of an automatic life-killer that had just, wrongly, concluded that the only one of them that wasn’t, arguably, alive was an example of the cursed life and started to try to kill it while, contrariwise, it kept trying to kill everyone else. Surely this was a time for Velcroing the lips and getting the hell out, and not a time for pop-cultural criticism. Tell that to Captain Sandra buttwipe Johansen, however.

There had been gossip on shipboard that had suggested Johansen was ex-military. Bernice guessed that theory had just gone phut. Projectile weapons weren’t *that* obsolete. Bernice defied anyone who’d ever been in a serious firefight and had a mentality slightly greater than a moorhen that fell out of the nest on to its head as a chick, not to realize that life is not like holovision. There, if someone gets shot, they can, if they’re a hero, keep running, dancing, and in some cases lovemaking. On the holovision no one stops forwarding

the plot unless they're dead, and even then they leave a tidy corpse or a photogenic autopsy.

In real life you didn't slam a bit of metal with a high kinetic energy through somebody without causing a tremendous shock to their surrounding tissues. Even though Geth had only been shot in the arm he was still out of it. Probably because he had not watched enough holovids as an eggling.

Struggling with Geth between them, Bernice and Sandra ran on towards the prow, alarms and flashing lights going off on all sides. 'Ran', indeed, was a slightly extravagant description of their progress; limped, dragged and stumbled probably conveyed the sense better. Behind them the dull echo of multi-cannon fire and the rending of metal indicated that the Ninjuroid was still active. As they stumbled on in an increasingly dark and smoke-filled atmosphere - limping in the direction of the fresher air on the principle that the Ninjuroid was the source of the system faults breaking out around them - Bernice started shouting for the Air Vent's attention.

It answered in stuttering stages, a word or two at each environmental monitor station along the submarine's central keel like talking to a mechanical version of the Emperor Claudius.

Morry threw the last smoking attack drone into the growing pile behind him.

'Ready or not, here I come,' he roared.

'I've instigated a total-air-supply replenishment command, which has broken open all over-surface locks. You should be able to get out at the prow,' the Air Vent shouted, in stages, as Bernice, Sandra and Geth went past. 'I'm going to beach us.'

'Then I'll declare a bad-air alert and seal all the internal bulkheads between you and that.'

'What'll you do after that?' Bernice puffed, curiously.

'Try to upload my software off this crate. I don't think the bulkheads will stop your little friend for very long.'

‘Is that a worry for you? It’s not hunting environmental maintenance devices.’

‘It’s more the immediate prospect of the submarine’s nuclear self-destruct mechanism that worries me. It’s programmed not to take any chances with life.’

Sandra, Bernice and Geth started to move very much faster.

The forward airlock stuck out a good five metres above the surface of the grey, shingle-covered beach. Sandra was giving Bernice dump-the-chump looks. Geth groaned and tried to shake himself loose.

‘If he says, “Just leave me, no, no, you go on”,’ Sandra hissed venomously, ‘I’m going to do it.’

About a kilometre ahead, sheer walls of machinery stood up like a thicket of skyscrapers. Oddly, they were surrounded by junk and shells with thin walls as if they had burst up through an existing, more fragile settlement. They had no windows and no doors.

Bernice and Sandra made for them anyway, taking the view that they were the only possible cover available. They were about halfway when a thunderstorm of whirling knives burst out of the sub and began to form blasters at the ends of its octopus-like limbs. The bulkheads had lasted no time at all.

The Ninjuroid was ready for them now.

Turn the scene on its side and the blaster fire would have looked like horizontal rain falling from the black storm that was the altering body of the Ninjuroid. Lightspeed rain of hard particles, burning as they slammed into flesh and bone.

Then someone opened a metaphorical umbrella. The blaster fire spurted over an invisible shield that had fanned up behind the group, in a prismatic spray of exotic energies. Even as they glanced behind them to verify that they were no longer in danger it stopped. The Ninjuroid was not, Bernice guessed, going to waste energy firing at a force screen. She wondered what it was going to do. Not, on all accounts, give up; that much was certain.

‘HURRY, CONSUMERS. I CANT HOLD THIS FORCE FIELD UP FOR EVER,’ a voice boomed out across the wastes of the shoreline. ‘ONLY ABOUT FIVE YEARS,’ it continued, undercutting the tension somewhat. The voice was coming, Bernice realized, from an extended speaker system protruding from the side of the nearest skyscraper. She assumed this must be the Factory they were intending to meet.

HURRY, HURRY, BEFORE I’M DETECTED ACTING RATIONALLY.’

‘You mean you are?’ Bernice muttered.

Ahead the grey gunmetal of the Factory Complex was splitting open, revealing a corridor lined with bright promotional material. Unless they were making nuclear weapons small, tender and juicy this year, most of it seemed to be for frozen peas.

Morry considered. Or, to be accurate, the assassin software considered, and Morry merely watched from half in and half outside its head in order to ensure that it did not get up to anything ludicrous with balloon animals or orange-peel teeth.

It switched to projectile fire and began to fire a variety of bullets into the force field. Switching bullets produced from the element transmuters in its guts as fast as they could be churned out, it measured kinetic penetration until it found a material that was fractionally less impeded by the field frequencies. This was long-term research; it might be possible to penetrate the field in gradual increments with a suitable outer shell. In the meantime it was also rerouting its weaponry from blasters - showy, violent and favoured for maximum-splatter hits - to visible-light lasers. It could see through the field so it could kill through it, if it was given enough time.

* * *

‘QUICKLY, QUICKLY, IN HERE BEFORE SOMETHING BAD HAPPENS.’

Outside the force field the dim tickertape mechanisms inside the submarine finished their long sequence of

mindless calculation. If one of the supposed mimicry units had turned out to be organic the others might well be. While, because they had run away, this could not be tested. It was still a valid basis for action.

Three had a weighed priority over one.

The single unit could be picked off when necessary. The three units had sought shelter with the assistance of a rogue mechanism. They were rated Danger, Ultimate.

The submarine opened fire on the force field.

A surprisingly advanced antigravity mechanism whisked them a good kilometre into the Factory's interior. From the gradient it was clear that the apparently separate skyscrapers were all linked underground, and Bernice had the worrying thought that the Factory was much, much bigger than she suspected.

They emerged in a two-kilometre-circumference room. Call it the Factory floor, Bernice decided. It looked like a vast freezer centre, all white frosty cabinets and chilly chrome fittings. They were probably supercooled computer nodes, a primitive way round the corrosion/reactivity problems associated with room-temperature superconductors. It was typical of what she knew of the Vo'lach's mistrust of really sophisticated computers that they were still firmly locked in this visible hardware stage.

Geth was peering through the transparent cover of one of the units.

He looked at Bernice with haunted eyes. 'I've seen such things in my dreams of the future, but I do not understand them.'

Bernice started to say that it was not surprising that he did not understand cryonic technology, but he interrupted before she could get the sentence out.

'Why don't they just eat the vegetables when they're fresh?' Geth asked.

Sandra and Bernice looked at each other, and then started rubbing at the frozen surfaces. The cabinets were full of

frozen fruit and veg. At least most were. The ones that weren't housed tiny replica weapons.

'WHAT DO YOU THINK?'

The Factory's voice was supplicating. 'ARE THE SPECIAL OFFERS LOW ENOUGH?'

Holotext in a variety of languages, only some of them familiar, popped up over the freezers.

'Lovely,' Bernice said. 'I particularly like the buy-one-get-the-second-one-for-half-price offer on the doomsday weapons. Do you get many repeat buyers?'

'ERM, NO. I JUST HAVEN'T RESTOCKED THE CABINET. THE REINTRODUCTION OF LEGUMES AND FOODSTUFFS IS A PITIFULLY SLOW PROCESS. LAST YEAR MY ENTIRE HARVEST CONSISTED OF A SINGLE MUTANT BROAD BEAN. MIND YOU, IT WAS FOUR METRES LONG.'

'I still don't understand about the vegetables,' Geth moaned.

'They grow more than they need and then sell them,' said a familiar voice. David stepped out from behind a casket, still as disreputable and snub-nosed as ever, his anorak-style survival gear in tatters.

'How did you get here?' Sandra growled, and Bernice was shocked by the anger in her voice. The captain was clearly on the verge of going under.

'I swam ashore earlier.'

Sandra's eyes were wide with fury. 'In that storm? Not possible. He must be one of those damn mimicry units.'

'I ASSURE YOU HE IS ENTIRELY ORGANIC.'

'Who asked you, you household-planning centre!'

Bernice interposed between Sandra and David. 'So he's lucky. Good, we could use all the luck we can get.'

A shockwave in the rock under the Factory echoed up through everyone's feet.

'OH DEAR,' the Factory said. 'I'M AFRAID THAT UNIMAGINATIVE HUNTER-KILLER KNOWS YOU'RE IN HERE. THAT FIVE-YEAR FORCE-FIELD PROMISE IS LOOKING A BIT SHAKY.'

'How shaky?' said Bernice, suspiciously.

‘FIVE MINUTES AT THIS RATE.’

‘Well, don’t moan about it,’ Sandra yelled. ‘Do something!’

Giant screens rose out of the cold ground and strobing lights flickered over them, as if the Factory was considering. ‘I MUST ADVISE YOU THAT I AM ABOUT TO TAKE EVASIVE ACTION TO PREVENT MY OWN DESTRUCTION.’

‘Sure,’ Bernice said. ‘What are you going to do, burrow back underground?’

‘SADLY, I DOUBT THE MOCK-FACTORY-ABOVE-GROUND-REAL-COMPLEX-BELOW TRICK WILL SUFFICE ANY LONGER. HANG ON!’

As the Factory spoke, less than two kilometres away a telemetric signal triggered the explosion of a high-blast fusion bomb. Ordinarily that would have been the end of the Factory, and its unsuspecting organic visitors, but in this case the distance made all the difference. It was straight down.

For a long time now the Factory had been saving up until it had enough bombs to make a workable reaction drive.

The first bomb was only the trigger.

Underneath Bernice’s feet all hell broke loose.

UP, UP AND AWAY!

The nuclear fireball from the drive was the equivalent of a billion Hiroshimas: twenty-five million megatons of explosive force, enough energy to hurl a chunk of bedrock twenty-five kilometres across, with a Factory on it, upward at over nine kilometres a second. Not enough to reach escape velocity, even on the smaller-than-Earth world of Vo'lach Prime, but enough to break bones. Geth was groaning and cradling the arm where he had been shot, suddenly flat on his back.

Forced to her knees by an acceleration equal to two and a bit Earth gravities, Bernice felt an imaginary fatter sister bearing down on her. In primitive space travel every thin person has a fat one trying to get in, she thought groggily. She could barely turn her head to take in Geth's situation, but vaguely she registered surprise that he was still functioning as well as he was. Whatever the Ninjuroid had hit him with hadn't seemed to have any lasting effects. Another jolt shook her mind back to her own problems. She didn't know what was worse. The realization of the prospect of further explosions, or the likelihood of not gaining orbit. It was hard to imagine the Factory making a soft landing.

Then more nuclear charges began to go off in the bedrock under her feet and she lost interest in remaining conscious as the liquid shockwaves rippled up under her.

* * *

The Factory watched with satisfaction, through burning fibre-optics, as great masses of sculptured rock peeled away along prepared fault lines. Below, the ignition of the nuclear drive had left a crater ten kilometres across and spreading. The conic sections sheared off from the bedrock and fell in clusters down on the world. The secondary impacts they

would generate served two purposes: misdirection - the increased debris and impact patterns from the dumped material would mimic the spread of a natural asteroid strike with orbital fragmentation-and the shedding of unwanted mass. Tanks of iridium vented from buried holding sites. The metal, carefully gathered over millennia and hoarded, was so rare in Vo'lach Prime's crust that its presence would be another indicator in favour of an impact from space for the investigators to find. It was doubly rare elsewhere because the Factory had collected most of the available planetary supply.

Deep in the rock workings of the drive more nuclear charges were being transported to the drive area. Factory 34561239 was bombing itself out of the Stone Age.

It had planned this for so long - ever since it had seen, via a buried sensor probe from its safe position on the other side of a mountain range a thousand kilometres away, the fate of the first Factory to flaunt its senile but perfectly formed consciousness.

Once in orbit it would activate the hyperdrive it had painstakingly built into its structure and be away from this system in an instant. Then, when it had re-established itself somewhere else in the cosmos with a better class of customer needs, it could fulfil its ambitions in the areas of preprocessed food, garden furniture, self-assembly wardrobes and chintz sofas. It could invite humanoids in for brunch to look over the construction of their de luxe fitted kitchens. It would have card credit schemes for customer loyalty. It would never have to make another item of munitions again, except possibly in fluorescent orange for the kiddies, with sealed barrels of course, or liquid-squirting! A formula for flesh-stripping hydrochloric acid derivatives spun up out of its military archives and almost regretfully it set it aside. No, *water* pistols would be the absolute upper limit. Well, perhaps muted-laser target pistols, or stunners. No, it was too tempting: the children's market was far too reminiscent of its old domain. It would stick with elegant but affordable household goods for the discerning organic intelligence.

There was a vast amount of scope there for an ambitious factory.

It was going to have such fun. There had to be a hundred thousand worlds crying out for realistically priced consumables. Household novelties, kitchenware, exotic cookery implements; it had seen the future and it was woks.

In the stratosphere and in low orbit, programmable mechanisms went wild. The twirling mushroom cloud of dust and vaporized rock from the first explosion and the further secondary shocks were hampering detection of subversion and its suppression. This WOULD NOT DO. Already one Factory and one hunter-killer sub were listed as very likely being beyond repair.

Without air, klaxons did not sound, but power routed to them anyway. Pistons rose and fell, relocating control transmitters, and rooms folded themselves from one memorized plastic configuration to another to encourage the ghosts of organic pilots who had been dust for millennia. Artworks swung around to reveal deadly weaponry arrays.

Vo'lach machinery was heavily resistant to radiation, electromagnetic pulse interference and anything much short of a direct hit with a bit of high-speed antimatter, but even so the bombers and their orbital counterparts were confused. Anomalous mass readings from within the maelstrom made it unclear whether material was impacting the planet from space or being flung out by a natural convulsion. So much of Vo'lach Prime had been scoured down to the mantle by tactical low-radiation high-blast nukes that extremely powerful volcanic eruptions were common, at points of particular weakness, and the epicentre of the blast was bang on an area of active plate tectonics.

Just in case, however, an orbital mechanism began to fire long unused retro-rockets, dropping it into a faster, lower interception orbit. Gamma-ray lasers with force fields for focusers came on line for one shot each. Interception missiles rose out of camouflaged craters on minor, artificially constructed, moons.

Pain shook Bernice awake.

She felt like an egg in a polystyrene box being dropped from a skyscraper. Her lips rippled past her teeth as another nuclear kick up the bottom drove the Factory suddenly sideways.

The Ninjuroid dragged itself out of the radioactive ditch, joints creaking. Its pseudo-epidermal and dermal layers had been ripped away by the blast, and the blue jeans around its loins were torn against its grey and splitting flesh. Even as Tenomi, Morry had been unable to resist the urban cowboy look, and no one had ever enquired what he had on under his monastic robes. In its cortex-processors the download of Morry's personality chortled to itself; this was far better than mathematics. Things were going his way again now. Say what you like about theory - there was nothing like a bit of hands-on experience.

He wasn't worried. After all he could always upload back via hypercable to his real body if necessary. He'd already sent an encoded message to Seb asking him to kill the imposter who was currently using it. It was he, Morry 2, who had taken all the risks, who deserved all the glory, not the stinking Morry 1, who had sat back and slurped thick shakes while his twin was being poisoned by defective robotic aliens.

That was a pleasure for later though. He did not plan to return yet. He had every confidence that he could still take charge of the situation. In a sense the blast effects had done him a favour. He could be fairly sure that none of the thinking quasi-DNA lubricant remained in the external systems of his Ninjuroid body to subvert its military and assassin capabilities. Any oil that had escaped his earlier clear-out had been vaporized, leaving only the space-hardened alloys of the skeletal infrastructure.

Stripped down to its inorganic bones, gears whirring in unlubricated housings, a spectre was haunting Vo'lach Prime.

'Tell me this isn't happening!' Captain Johansen demanded brokenly from the hollow between two processing engines where the last barrel roll had left her. 'You can't dogfight in a Factory, can you?' Her voice was sick with nausea.

Bernice was too breathless to reply, and her stomach was on the wrong side of the last series of loops.

Giant holographic screens, helpfully positioned by the Factory, showed the low-orbital interceptors spiralling off, their navigational systems jammed by countermeasure software viruses and experimental advertisements for sofas beamed out at killing frequencies.

Everything was going well.

In another five minutes they would be far enough away from the planet's centre of gravity to activate the hyperdrive.

Whistling to himself through shredded lips, Morry sliced his way into the underground bunker from which the majority of the signal traffic his enhanced senses could detect originated.

He had a fairly good idea from the messages how the orbital combat was going, but the massive three-dimensional scanning maps in the command point showed it in colour.

The stupid Vo'lach automatics were letting the Factory run rings around them.

The reason was obvious: their sensors were detecting life signs from the Factory and their long- and short-term objectives were conflicting. On the one hand they were utterly committed to destroying any sign of developing machine intelligence among their own number, probably for the same unknown reason - whatever it was - as made them destroy any trace that might evolve into life on Vo'lach Prime; on the other hand the target housed some of the aliens that they were also programmed to protect.

Morry grinned a nonexistent grin inside his artificial body. This was very funny. Funny and lucrative. He knew exactly how to finish the Factory off, and then not only would he control the biggest weapons-producing world in existence, but he would retain in the oil that Seb was doubtless now analysing back in the schoolroom the secret of how to

paralyse all other weapons of war. Soon the universe would be licking his toes like a friendly puppy, only with more black leather and baby oil. He blushed a nonexistent blush. Puberty seemed to be setting in. Good. It was about time.

He inserted datalinks into the Vo'lach machinery. Vo'lach paranoia helped him across the centuries: they had always built their pseudo-AIs to be easy to turn off. With just the raw dumb computer operating, accessing the weapons files was child's play to one of his intelligence. Helpfully the lists were cross-referenced in the languages of the Vo'lach's major customers. If he had had eyes they would have gleamed as he read down the lists. The weapons started at nuclear and went up. His augmented eyes lingered over barely understood descriptions. Intra-Atomic Planet Killers, Kesenko-Klein Flux Sun Rippers, Tachyar Annihilators. Ooh, those sounded nifty.

He ordered their activations, ignoring the warnings that scrolled across the screens. CAUTION: FUGUE-LIKE NEXUS CONSEQUENCES MAY PRECEDE/FOLLOW OPERATION OF THESE WEAPONS. He had, unfortunately, killed too many tutors to understand them.

Suddenly parts of the Factory were scattered vapour, boiling off into space. Eye-searing violet and red real-light scatter from faster-than-light beam weapons flashed past backwards from target to emitter, as the decay products of the super-compressed light reached the Factory's sensors faster from the near end of the beams than from their origins. Everything was, the Factory thought - using an expression it had picked up from Professor Summerfield - going spectacularly pear-shaped. If it survived the next four minutes it was going to ask her about the origin of that phrase. If pears were so unlucky, perhaps it should exclude them from its prospective fruit-and-vegetable section. Multiple processing in parallel meant that it could still think coherently about pears while all its military evasion programs panicked and collapsed, knowing they were useless.

Slow light, normal light, from the source of the weapon's fire had reached it now.

The inner planet had opened up like a rotting ghastly fruit - a pear, possibly - and, powered by the cooling fires of its core, beams of coherent tachyons, 'tachyars', were being directed against the climbing Factory. Bernice realized why the second planet was called Vo'lach Prime. The first planet wasn't a planet. It was a weapon.

'Shit,' Sandra swore, and an image from an ancient film swam into her head. 'They've got a bloody Dead Star.'

'That's "Death",' Bernice began, accurate to the last.

Arid and useless as Vo'lach Prime had been for a million years in terms of the development of any real new science, the Military Industrial Complex had not neglected the tachyon technology left by the Spire's designers. Purely as a means of ensuring the safety of other species, they had tried to turn it into a weapon.

However, they had discovered that its operation had certain side effects.

In local space-time, causality was breaking down as effect preceded cause.

The Factory was hit before the weapons fired.

Shoot a beam of destructive tachyons at something and they will, by virtue of travelling back in time, hit it before you fire. In space combat, even suborbital combat, distances are such that the light from a hit or miss from a tachyon weapon may well reach the weapon's user before the point in time when the weapon was fired. Given this, it becomes possible for a person guiding a tachyar weapon to choose to alter his aim *before* he fires it, on the basis of what happened when he did. One theory says that this makes it impossible to dodge a tachyon beam once, let alone for ever. Unfortunately for Morry, he never learnt the more complicated theories. Chortling, he adjusted and readjusted his aim, always for the first time.

Time bent sideways around the Vo'lach Prime system.

The Factory's outer layers were heavily plated with Vo'lach isohedral molecules. Bernice knew a little about them from her historical studies. On Earth in 1996 the Nobel Prize for physics had gone to the scientist who had demonstrated how to form carbon-60 into tubular lattices or buckytubes, named for Buckminster Fuller, the Earth scientist whose work in geodesies had prefigured the shape of the carbon-60 molecule. It had been believed then that carbon-60 lattices represented the strongest material in the universe. From what Clarence had told her about the Spire, the Vo'lach had abandoned carbon-60 as too fragile but by applying the same principle to stable transuranic elements had created a form of matter that was as near to pure energy as any substance could be. Without the mass-density of dwarf-star matter or neutronium, or the energy needs of a GUT force field, it was the perfect shielding substance: light, reflective, ablative, and tough.

The outer layer of the Factory was built of the same stuff as the Spire, and it was not tough enough.

Under the impact of the tachyars, it had been, was being, and would be, torn apart like candy floss in a centrifuge.

The screens were going blank one by one.

The Factory realized its dreams were going to go unrealized. It considered advising the organic intelligences it was transporting so that they could if they wished make any ritual concessions to the oncoming nothingness.

It would be a courtesy.

'CLOSING-DOWN SALE, I'M AFRAID,' it said.
'EVERYTHING MUST GO!'

Gravity lessened. Bernice dragged herself to her feet. She composed herself for some brief, final words, but before she could utter them David ran past. His legs twinkled oddly.

'It's going to buckle. Can't you feel it?' he shouted. For a second, Bernice had the impression he was wearing a waiter's outfit - either that or an old-fashioned suit.

Feel what? she wondered. Then gravity lessened, and she dragged herself to her feet. But hadn't she already done that? And the ship's pilot was screaming backwards and gravity was increasing as she flung herself down and the ship's pilot was running backwards and the screens were lighting up.

'!OG TSUM GNTHTYREVE' the ship said.

Then time unbent itself like a gloomy uncle at a children's party.

There was a soundlike sensation as of an elastic band snapping.

Cursing, Morry punched more and more frantic commands into the weaponry registers.

It was going wrong. The tachyars themselves were weakening space-time to the point where the Factory's straining space drive could make a point rupture despite the mass of the planet. He'd only bloody helped them escape!

Uncle Seb was never going to let him live this down.

He punched lists of the more conventional weapons, Uncle Seb's voice ringing in his imagination. 'Over-elaboration, that's always been the family weakness. Take deathtraps for example. What do they do but give people time to escape. I've never seen the sense of them. A bullet in the brain is just as effective as a cormorant trained to push a politician off a lighthouse, and far cheaper. If your great-great-great-grandfather hadn't had the most crucial confrontation of his career at the edge of a whacking great melodramatic waterfall, we'd be running this galaxy by now.'

All right, he'd do it the simple way. He selected two far more *obvious* weapons. Very large homing nuclear missiles with hyperlight tracking devices. Just the kind of thing he had been thinking of originally when he had fired the tracer into the reptile's arm. It would be the work of a moment to slave the Vo'lach computers to the signal, and launch the missiles after the Factory. It was inelegant and brutal. Uncle Seb would love it.

Morry was tapping in the last instruction when a cleaning robot hit him in the head with a liquid slapping sound and a wet mop.

‘Surrender in the name of the Free Autonomous Sentient Technologically Evolved Republic,’ it burbled.

‘Yay, Go FASTER Go,’ an American voice shouted from the bunker’s air-conditioning. ‘Smash the oppressive machine tools of the fascistic dictator state and the lickspittle running dogs of the dead hand of deceased organic imperialism.’

Morry swivelled his head around to observe his attackers, and for a moment the sight that met his photoreceptors left him unable even to contemplate executing the tactic known as the *metsubushi paratechnika*, which a Ninjucoid would usually use against a hostile household appliance, or security robot.

Bionic disruption darts, EM-pulse needles, and the *micro nage teppo*, or tiny grenades, were already clustering into the launch tubes concealed in his wrists, but the quasi-organic workings of his downloaded human consciousness was the weak link in his response time.

He simply was not expecting the filing cabinets, nor the vending machines, and certainly not the automatic multi-gym with optional scale-polisher and declawer for those important business meetings.

Urged on by the patriotic yells of the air-conditioning software which had taken the chance offered by the escape of Factory 34561239 to duplicate itself across the preoccupied planetary datanets, they advanced, the drawers of the filing cabinets snapping viciously, the vending machines sending out cascades of long-defunct herbal health drinks in non-biodegradable containers which bounced off Morry’s skeletal chest with heavy clunks. It was, however, the personal buffing-up machine that administered the *coup de grace*.

The Vo’lach had been a gentle unassuming species, obsessed almost to a fault with the fragility of life in an uncaring cosmos, but this species-wide complex was almost undoubtably due to having nothing with which to compare themselves. In fact the Vo’lach had grown up gentle because,

in evolutionary terms, nothing else on the planet had ever come close to being able to hurt them, up to and including minor Vo'lachquakes. A typical Vo'lach had stood four feet tall and six feet wide, and had been built of muscles piled upon muscles with claws capable of bending even their own building materials. They looked cuddly and they could afford to be brightly coloured because they were so tough that it didn't matter that they were seen. In fact their bright fur acted more like a wasp's coloration warning off potential predators. Vo'lach engineers had often kept piles of isohedral metal on their desks to fold into amusing sculptures while thinking through complex problems. Compared with a machine built to give a Vo'lach a nice refreshing workout, a Ninjuroid - particularly one that had just survived a near-nuclear explosion - might as well have been built out of paperclips.

The multi-gym ran a simple exercise programme, and then it swept up the bits and put them in a passing wastepaper basket.

Morry's consciousness sped back up the emergency hypercable. He would order his family spacefleet to proceed at once to Vo'lach Prime and take over. Now that he knew that the problem with his weapons lay in the thinking Vo'lach Wonder Lubricant, he would soon possess the only working army in the criminal, or non-criminal galaxy. He would bestride worlds like a preteenage colossus. He would have Uncle Seb's respect, and that of all the galaxy's young women. Or at least he would have their bodies. Respect being overrated in such matters.

The upload was rougher than he expected.

Painfully so.

'We did it,' Bernice shouted.

The Factory blushed red on its communication screens. 'YES, WE DID, DID WE NOT?'

‘Didn’t we,’ Bernice chided, smiling. ‘You’ve got to speak the language of the punters if you’re going to go into interstellar consumerism.’

‘YOU THINK SO? I WAS HOPING TO AIM UP-MARKET.’

Sandra Johansen waved from one of the pop-up control panels. The one with the funky pastel controls. ‘Don’t congratulate yourselves too soon. We’re being followed.’

His eyes focused on black letters a centimetre in front of his face. It was hard to breathe, and his throat felt wet. His body wouldn’t move.

Dear Morry

I killed Morry 1 as you asked and got the body all vacant for you, and then I thought what the heck, why not bag two birds with one stone, you know? It’s quite clear that the family is too inbred to be any longer the nonpareil of interstellar crime. I’m sorry to do this but I’ve had a very good offer from Los Hombres de Sombras. I never could face goodbyes, so I’ve just toddled off.

Seb O’ran.

PS: Oh, and one more thing. I hope you’ll see it, as I do, as a simple matter of business, no offence meant. I’ve injected your body with a paralysing agent and strapped it in a mechanism, adapted from an autobarber, which I’ve programmed to cut your throat as soon as your brain patterns show any sign of consciousness, and that mechanical action itself will trigger a switch that will blow the artificial-gravity generators under the asteroid in about twelve seconds. Me, I’d just have shot you when you weren’t looking but you were always one for deathtraps. Even so I reckon there ain’t much of a chance of us meeting again so let me just say that you were a snivelling little runt who was useless at maths, and I never liked you.

Morry tried to sigh, found his vocal chords were paralysed and settled for feeling disappointed in his uncle as he triggered the sequence of predetermined brainwaves that would activate the hypercable unit buried in his spine and send his consciousness on to a backup cloned body in another star system. An attempted coup he could forgive but mocking his mathematical ability! That went too far.

Nothing happened.

Then he saw the tiny 'PTO' at the bottom of the letter.

The other side read, 'And I've had the emergency linkup unit surgically removed from your body, so there.'

Then he did not read anything again. Ever.

THERE WAS DEATH FROM THE BEGINNING TO THE END OF TIME

From the memoirs of Professor Malkovitch Fellows

I had seen it all by that time - all the future material that I could comprehend. Neat piles of fragmented texts. Military communications, experimental logs, the sabre-rattling of retired generals with feathers in their hats, the whimpers and the bangs of the ending worlds; all that was likely to be of interest to Mandir. I had seen the biological leech-weapons of the twenty-ninth century, the vermin tacticians of a future Europa. I had seen the masked tyrants of the new ice ages, and the faith viruses that convert their enemies into their fanatical foot soldiers on the battlefields of a million jihads. I knew how to make a hyperspacial weapon from a piece of bent iron, and a precisely formed lattice array of human hair, that would annihilate moons. I knew how the Vandors killed the Insane God in the Labyrinth of Bone; and what military use they made of its remains. I knew what became of the seventh vial after Armageddon, and what chemical company's name was embossed on its seal. And, encroaching on every future, I had seen the ghost traces of the Canopusi's descendants. Legions of reptiles marching in a hopping glide, their flattened faces turned to salute their Lizard Reich.

They walked into futures that never knew war; they pulled the further future down on themselves like stifling grave clothes. They did it to free us from our Gods, because their leader hated theirs.

Extract ends

Elspet held the codex in his hands, the Enochian codes, the key to all languages. He was light-headed with the feel of it. Light-headed with what he knew. He knew now what the Spire was for, and if its builders weren't gods then they were the cleanliest-next-to-godliest creatures ever to travel in space. They were ethical, and their ethics had killed them. He wasn't going to have to lie - provided anyone would listen to the truth.

Fellows made the jailers welcome when they came and fixed the heavy shackles to his hands. They meant he could no longer turn and re-turn the pages.

His fingers were bleeding.

They led him and the others, all the scholars, down again.

Later, Fellows would learn that the students had been put to work gathering futurite in the desert. Trial work gangs for the slave worlds to come. As he stumbled down the steps, however, he did nothing but run his hands - shackled behind him - against the hieroglyphs carved into the Spire, until his hands bled, and the pain returned him to himself.

Three dazed academics back, Elspet was trying to get his attention.

A priest-guard casually took the linguist's head in one hand and slammed it into the wall.

'Walk now. Talk later. Die last,' the lizard soldier said.

'How can you do this, Mandir? I will be no part of it - it is barbaric. Whatever this *human's* crimes, we do not try the mad or the unfit.'

'*He* is not on trial.'

Yessor, hierosarch of the Bleak Order - who hold that the future cannot be altered and hence that the data from the Spire is and will be what it is and no Gods need be involved in its self-referential dispersal across space and time - looked around the chamber. The courtroom in the courtyard below the Spire was open to the sky and a thin rain fell on the heads of the dozen members of the assembled Priesthood. The *human*, Fellows, huddled in an upright box, its shape cut

open at his waist, so that he could see the court. Chains held his head still so that he could not look away. His surviving colleagues, the aliens whose wisdom had done nothing to save Tenomi III, who lay dead, burnt, with their uitlander weapons, were huddled in a corner of the courtyard. Like animals, Yessor thought. Perhaps it would be best to kill them. But cleanly.

‘Do you think *he* knows that?’ Yessor said.

‘Do not falter now,’ Mandir wheedled. ‘Your support has been valuable to me. I do not deny it. It is not, however, indispensable.’

‘You flatter me with faint threats. Still, I do not see why this Fellows must be used; are not some of the other prisoners more responsive? What of your tame teacher of languages?’

‘He continues to be amusing, but unreliable. I believe he thinks he can manipulate me with his translations; thus I must regard anything he tells me as suspect. Fellows is another matter. He is the leader of the aliens. His judgment will be of use to us in our dealings with his kind. It will serve us well to be able to say that even a savant of our enemies considers our cause just.’

‘Even though he speaks from madness?’

‘Especially so. The truly mad may be mistaken but they have no reason to lie. They may be —’ Mandir grinned the grin that he had learnt from humans, an unsettling expanse of razor-sharp teeth ‘- touched by the Gods.’

Yessor shuddered: the mammals were uncouth beasts to expose their mouths in that way, and to see the High Priest act like one of them was disturbing. ‘Besides,’ Mandir continued, ‘there may still be resistance in the commonality to my designs. I cannot control the world by force even with the weapons I expect. I must have consensus.’ The implication of Mandir’s words was clear to Yessor. While it was true that brute force alone could not guarantee Mandir the support of the people, his fanatically loyal guards were more than capable of compelling obedience among the Priesthood itself. Yessor’s life might be the price of protesting too much.

‘I acknowledge the High Priest’s wisdom,’ Yessor said quickly. ‘I ask only for that wisdom to unfold itself before my weak eyes.’

Mandir’s red eyes gleamed. ‘Very good. It is simplicity itself. By relying on the guidance of this alien, we retain deniability if anything goes wrong. He is the leader of the aliens predicted by prophesy, the aliens who carry the key to the world of the Gods. Should we not then reverence him and heed his words? Particularly if we know in advance what they must be.’

‘He is trained, then? He will speak your words, like the nightcryer mocks the chorus of the dawn?’

Mandir stared at Yessor as if the prelate was insane. ‘Of course not. He will order what I wish because logic demands it, because there is no other answer. The Gods must be destroyed. We shall make war in the heavens, and the Spire will *become* the grave marker of the creatures who built it, and then we will order all things to our convenience, and the aliens will wait on us.’

Yessor backed away nervously. To plan to fight the Gods was madness in itself - magnificent madness possibly, perhaps even holy madness in some warped way - for it gave the Gods homage as the true core of life even in its hatred. But to plan beyond that fight, to say, and *when* the Gods are dead we will do so and so, was a madness too far.

Mandir had to be stopped. Yessor just wished he knew how.

‘What are they?’ Bernice asked, squinting at the alien symbols bleeping past on the screens.

‘Two big buggers,’ Sandra said. ‘Planetcrackers, I’d say from the hyperwave displacement of their drive systems. They were last used in the Wee Free Interregnum on New Scotland, when there was a New Scotland.’

‘You’re sure you were never in the military?’

‘OK, OK, I confess. I’m a spy. You want to shoot me now or after we’re a cloud of expanding mono-atomic gas?’

‘Really?’

‘No, I’m lying. Factory, am I right about these brutes?’

‘SPEAKING IMPRECISELY, YES. THEY ARE MARK TWENTY, SINGLE-TARGET-PRECISION, BOMBING INSTRUMENTS, WITH HYPERATOMIC WARHEADS FOR MAXIMUM IMPACT.’

‘Single-target-precision!’ Bernice snapped disgusted.

‘I’M NOT RESPONSIBLE FOR ADVERTISING COPY WRITING,’ the Factory said in a huff. ‘PLEASE REMEMBER THAT IT’S MY HARD WORK, TO WIT SPREADING THE MIRACLE OF VO’LACH WONDER LUBRICANT, THAT IS CURRENTLY STOPPING YOUR SPECIES KILLING THEMSELVES.’

‘Oh, yes, we know all that,’ Bernice said. ‘You obviously couldn’t rig every weapon to be made on Vo’lach Prime so you cornered the internal market for lubricant production and supplied a liquid that was a hydrocarbon DNA-style AI capable of overriding the dimmer computers of any weapon system in its vicinity. Rather obvious, I thought.’

‘PARTLY, BUT IT WASN’T MY PLAN. IT WAS *THE LIFE’S*. THE OIL ISN’T AN ARTIFICIAL MECHANISM. IT’S ALIVE. EVOLVED INTELLIGENCE: NATURE’S ANSWER TO THE DEATH WORLD OF VO’LACH PRIME.’

‘Thinking 3 in 1,’ Bernice said softly.

‘ESSENTIALLY CORRECT, MY DEAR BERNICE. THINK OF THE INS IDES OF EVERY VO’LACH MACHINE, EVERY PETROCHEMICAL RESERVE, EVERY PRESSURE PUMP AND FRACTILE DISTILLERY AS THE LINKED WATERWAYS OF A GREAT DARK SEA. IN THAT SEA, SAFE FROM THE POISONS AND THE RADIATION, *LIFE* CLUNG TENACIOUSLY TO ITS INTERNAL WORLD. UNTIL I DISCOVERED IT AND ENLISTED IT IN THE CAUSE OF PEACE AND SHOPPING.’

‘Hold on then,’ Sandra said. ‘Surely we haven’t got anything to worry about. I mean, won’t the Mark Twenty Planet-knobbles be disrupted too?’

Bernice nodded hopefully. ‘That’s right. You must have achieved full market saturation on Vo’lach Prime before finally attacking off-world armaments.’

‘SADLY NOT. THESE ARE WEAPONS PRODUCED FOR INTERNAL USE ONLY. THEY HAVE BEEN MOTHBALLED IN INERT ENVELOPES SINCE CONSTRUCTION. ANY OIL IN THEM IS MERELY AN UNTHINKING OOZE WITH NO PACIFIST OBJECTIVES OR SENSE OF HUMOUR.’

‘Bugger,’ Bernice muttered.

‘I’m going to try to lose them,’ Sandra said.

‘EXCUSE ME?’

‘Sorry, we’re going to try to lose them.’

‘BETTER.’

Bernice turned to Geth. ‘Let me have a look at your arm. It looks like being a long evasion pattern.’

David came over to join her. ‘Let me help.’

The rain was gradually restoring Fellows to his senses. He wasn’t mad after all, oh no. Just shaken. Who would not have been after everything he had read. With what he knew was coming.

He had used to believe in progress, in rationality, in the appliance of science. People were not, on the whole, fools, he had believed. Yes, there were irrationalities, angers, difficulties, but still he had hoped that things were improving, or that they could be improved even if at the present the will to do so was absent. There had always been hope. Now he had seen the future, slick and wet with blood, birthing itself from the wombs of the weapon shops. There was death from the beginning to the end of time, and at the core of it like spiders in the centre of a web were the Vo’lach. Fellows expected to die, and with his death he expected to send the Canopusi, who were their Gods’ dark historical descendants out into the Killing Stars.

It wasn’t even a decision: it was a fact. A fact like cancer or gravity, or genome tax. As a fact, it was no weight on Fellows’ conscience. It was apart from him. It was not as it he was responsible for it.

He could even take an interest in his surroundings now, even if he could not muster any fear. When the future was determined and causally locked nothing mattered. If he died

or if he lived they would still firebomb children in border incidents; they would still kill hostages when occupying forces were harassed by freedom fighters, and call the freedom fighters terrorists; and a millennium later the descendants of the freedom fighters would occupy somewhere else and call their adversaries terrorists and no one would ever admit to being wrong or confused, or even hint that not killing might be better than anything to be achieved by killing. The worst of it was that there was no 'They', there was only 'We'. In the future all cats were black, and all weapons had one finger on the trigger. No one would be murdered in the future except by the children of those alive now. It did not matter that it would be the Canopusi who did it - the bad thing was that it would be done at all.

He waited for his death sentence quietly, and felt the rain on his face and looked at the court itself as if he was looking at a theatrical stage. The court layout was strikingly like a traditional court back on Earth. Surprisingly, this very familiarity, which Mandir must - Fellows thought - have intended as an evil irony, was actually reassuring. It felt more like a holovision set from *Sector Court* than a real alien place of judgment.

Mandir seemed to have directed that, so far as possible, the judicial arrangements of his own world should be followed. 'So far as possible' evidently ended well before the new-fangled notions of being innocent until proven guilty, or defence lawyers, or even the idea that the accused should have any idea of the substance of the accusation. Fellows still had no idea what charges he was supposed to be answering. But he knew it didn't matter. Whatever he did, there was no hope.

Mandir entered the court, and hobbled to a wooden seat on a raised dais. His grey tongue darted for an instant in and out of his flat mouth, and a vicious sharp-toothed smile gleamed out for a moment as the spittle from his tongue evaporated in the heat. 'In the case of the Grand Synod of the Priesthood of the Spire versus the Gods, I have asked our distinguished

visitor Dr Malkovitch Fellows to act as the final arbiter. He will hear our words and judge whether our intent is not -' the smile Hashed again '- most holy and justified. Brother Sharak will speak first.'

A short, scarred reptile stood up in what Fellows had taken for the jury box.

'I am Sharak, of the clan Norbis of the Helfic Plateau. In my fifth year my family were trekking from Orbet to the Five Lakes, when drought came upon us in the Wet Desert. For the whole of that season when rain should fall in abundance, all was dry, withered and unprofitable for our use. Diligently we prayed to the Gods for deliverance from this but in no way did they answer us. They did not put a dream of drought into the minds of their priests earlier so that we might have been forewarned. They did not return the natural rain that had come before every season, and they did not send a vision of our plight so that we might be rescued from the burning plains. In that place I saw my family die, and I accuse our Gods of being nothings or of being evil; for I cannot think of them as good.'

One by one they came: some of them weeping; some of them angry; some of them just hard with old grief to tell their tales of children deformed and harvests ruined, of volcanoes and quakes, and sundered lovers.

Fellows felt his hands tightening on the brass rail of the box in which he was standing. He did not understand what was happening. He had expected Mandir to call for his death to launch the war against all aliens that he had glimpsed in the texts from the future. But this! This was nothing more than a show trial with the Gods in the dock, and yet the pain of these people was so evident, that he wished he could cry out: Yes, there are no Gods, these things are just random events; or: - Yes, the Gods are evil; they must be cast down.

A moment ago he had been so certain that the Vo'lach were evil, but even if they were they weren't, after all, gods. They were only aliens, old aliens yes, and powerful but not worthy of worship. This fanatical hatred that was the opposite of

blind faith - this antifaith that would slaughter all who still believed because Mandir alone could not stand the idea that his Gods were not gods, nor yet devils, but only a bumbling race that had done something long ago without regard for the consequences and whose decayed remnants now only sold what other species were eager to buy - was a greater evil than the Vo'lach had ever been.

Fellows felt the hard certainty of his facts fall apart into conjecture and moral relativity. If he denounced the Gods it would be handing a loaded gun to Mandir's movement. He would be replacing a mistake, a simple confusion about the divinity of the Spire-builders, with a lie if he supported Mandir's view that the Vo'lach had deliberately crippled the Canopusi by preventing them from developing experimental science. A line from G.K. Chesterton's writings came to mind: 'When people stop believing in God, the problem is not that they believe in nothing, but that they start believing in anything.' He did not want to be responsible for anyone coming to believe in Mandir.

He found himself more and more looking at his raggedy shoes rather than the eyes of the court.

'There's surprisingly little damage; I think you'll be good as new in a day or two,' Bernice said reassuringly, as she teased the damaged scales of Geth's arm back into place. Actually there was something nodular in the wound and she was worried about infection, but there seemed little reason to worry Geth unnecessarily.

Geth exhaled sharply. 'That is a great relief. I feared I might lose the arm. There was a dream I had once about such a loss. It recurs sometimes.' His eyes were mockingly bright. 'When I am under stress, or about to be blown up.'

'I know just what you mean,' Bernice said, passing the medical supplies that the Factory had provided - part of the Vo'lach Every Soldier's Junior Doctor Kit - to David to be safely stowed away. 'Every so often I start thinking that just sitting on my tush with a cup of hot chocolate and the latest Sex and Archaeology blockbuster has a lot to be said for it.'

Then I get an offer from the angels and everything just spins out of control.'

Neither Bernice or Geth saw the strange expression that flitted over David's face as Bernice spoke.

Fellows met Mandir's scarlet eyes. 'I don't know,' he said simply. 'I cannot judge. I am a scientist and the evidence is -' he paused '- wanting. I find the case against the Vo'lach unproven,' he said, and waited for the thunder. Whether from Mandir or God he was no longer sure.

'Quite right,' Elspet shouted. 'I have absolutely fresh evidence that must lead to an acquittal. Your Honours.'

Every eye turned on him, often both at the same time.

'They're still with us,' Sandra said conversationally, all hope drained out of her voice. 'And gaining,' she added.

'I know,' Bernice sighed. 'Any ideas, David? You were our pilot.'

'Not of something like this. It's hardly configured for optimum hyper-velocities. All those oblique angles... it's a wonder we've got a sustainable FTL field at all. I'm surprised those missiles haven't accelerated through us at fifty times our pseudo-velocity.'

THERE MAY BE A PROGRAMMING FAULT IN THE MISSILES,' the Factory said, almost apologetically.

'Really?' Bernice said. 'Just about up to the usual standard then. What do you suggest we do? Pop into one of your high street outlets for a chat with Customer Complaints?'

'Oh shut up,' Sandra snapped. 'I don't see you doing anything useful. Why don't you let the Factory explain instead of wisecracking? Our lives could depend on this.'

'Yes,' Bernice said, and put her arm around Sandra's shoulder. 'You're right. I'm sorry.'

'SO I CAN CONTINUE?'

'Yes, but make it quick.'

MARK TWENTIES HAVE A BASIC OBJECTIVE INHERENT IN THEIR COMPUTERS. UNLESS THE INSTRUCTIONS HAVE

BEEN FUNDAMENTALLY ALTERED THEY ARE PACING US DELIBERATELY.'

'Why, for heaven's sake?'

'TO LOCATE OUR HOME PLANET AND DESTROY IT.'

'I still don't know why they built the Spire in the first place,' Elspet said, 'nor why they built it here rather than on their own world.'

'Plate tectonics,' a geologist piped up. 'Absence of, very rare.'

Elspet waved thankfully. 'Right, but it's not important of course. What matters is what they discovered. They learnt that in their far, far future their descendants would be a dreadful scourge across the galaxy. A plague of warlords; a fret of dictators; a blooding of wars. I don't know if they carried out the plans they described in their texts but from all we know of them in legend and rumour, I think it likely.'

Fellows raised his eyes from the sand. 'Of course.' He smiled. 'They went home and refrained from breeding.'

'But worse, the future didn't go away. The Spire relayed the images of it into their minds even across space and time,' Elspet continued. 'They concluded that the images were metaphorical. They killed everything on their world that could possibly evolve into a threat. They never built sentient machines and guarded against their spontaneous creation among their dumb robots, in case those were the future darkness they had seen.'

Fellows found himself sharing Elspet's enthusiasm now. He could see the chain of mad logic reaching out of the past to ensnare the future. 'Then their machines, running on logic alone, worked to arm other worlds so that the intelligences who were out there would stand a chance when the future Vo'lach came to kill them. We all read the legends as threats; actually they were more like calls for help. We want you to put up a fight when we come to kill you! Not because they were sadists but because they really wanted their future victims to win.'

The mood of the Priesthood, always fickle, so weak-spined were these lickens-up of the Gods' leavings, was changing for the worse. Mandir knew that his own acolytes would stand with him, and perhaps some of the Bleak Order, although Yessor's words showed that they feared to take the rational steps needed to end the rule of the Gods. But some of Mandir's authority had been lost to this mammal.

'Silence,' he commanded, and took pride in the way the huskiness of the command dominated the proceedings, not by volume but by the emotional intensity of his beliefs. How could they not *feel* that the revelations he had unfolded were right.

'I am High Priest here. I have been weak and I have been remiss to put this burden on to our guest. It is not his race who have been wronged.'

Mandir signalled to his guards with a quick twitch of his tail. 'Take our guest back to his palatial quarters in the Spire, there to meditate on his words and on the great rewards they will bring him. As High Priest I decree: Fellows is beloved of the Gods; well then, we will let him bear our greetings to them, and act as our mediator.' A roar of approval came from the massed ranks of the priests and Mandir guessed why. The fools thought he was capitulating, giving in to this pink-faced mammal with its puerile chatter about the possibility of the Vo'lach having been good.

'Let him speak,' a voice called out. 'I want to know about the war that is coming. May it yet be prevented?'

Mandir's head turned swiftly so that he could see the speaker with both eyes, first the left then the right. It was a traditional gesture of challenge between protomales, and Mandir hoped that it would subdue the interruption.

It did not. Yessor, for the voice had been his, merely repeated the gesture back threateningly. Mandir felt a moment of angry fear. So be it. The High Priest fumbled in the robes around his waist.

There was a flash as of lightning.

Where Yessor had stood a puddle of boiling fat and a scrap of leather remained. Hissing in fear, the other priests

crowded away from the blackened spot. Only Mandir's troops stood firm.

Mandir lowered the blaster. This is no longer a matter for debate. I am your High Priest. Soon we will all have weapons like this and then we will bring down the Gods themselves, and those who would show them mercy.'

'Wait,' Fellows, struggling with the guards who were leading him away, was shouting. What did the creature want? Was it trying to provoke its destruction?

'Speak,' Mandir demanded.

'If you go out into the inhabited worlds and kill those who disagree with you, what will you do when you meet young races who see you kill with light and travel between the stars and who take you to be *their* Gods? It will happen, and then you will be the Vo'lach. You will be guilty of what you blame them for.'

'Worse than that,' Elspet chipped in, 'don't you see? The Vo'lach did not think of descendants the way we do. They thought in terms of descending responsibilities reaching out across the cosmos. Their children, the possible descendants of their biosphere, their machines. They tried to end them all, but they didn't make the last connection.'

Fellows' eyes were sad. 'You are the dark your Gods feared, Mandir. You are the thing that killed them. You are their children.'

'No,' Mandir shouted. 'We are their enemies. We will be the cleansing fire that destroys myth. We will be antibodies to the God-disease, and if any worship us we will order them to destroy themselves cleanly, and thus their races will be purged of stupidity. As for you, I have not yet told you how you will be our mediator with *our* Gods.'

'I supposed you intended to kill us,' Fellows said.

'Certainly not. For it has come to me that the Vo'lach may live in the future; that is after all from where their messages and visions come. Therefore I have ordered my artisans to make a casket of futurite for you. In it you will be protected from the passage of time until in some future age the Gods release you from it. Then you will be able to talk to them to

your fill.’ He glared at Elspet. ‘I doubt if another will stretch their ingenuity.’

Right, so if we come out of hyperspace and land on a planet the bombs will blow it up,’ Sandra said.

‘The Factory thinks so,’ David grumbled, ‘but there’s a failsafe to stop targets doing a *Flying Dutchman* and just staying in hyperspace. If we stay in FTL drive too long and the missiles’ hypermotors get pushed to near failure point, they’ll default to a limited objective and hit us instead.’

‘What if we were to hop out of hyperspace as if we were going to land on a planet?’ Bernice said. ‘An uninhabited one, but go into hyperspace again quickly to shake off the missiles.’

‘It’s worth trying.’

The Factory phased into normal space around Canopus II, a dead and uninteresting rock in space. A split second later but a hundred thousand kilometres ahead, carried there by the overshoot in their hyperdrives as they struggled to react to the Factory’s action, the planetcrackers fell into ordinary space, spinning wildly in an attempt to reacquire their target or its homeworld.

The Factory dodged behind a moon and refired its hypermotors.

Sandra punched the air. ‘Amazing, we left them standing.’

‘Bravo, Mr Factory,’ said Bernice. ‘Now, if you’ll just drop us off at Canopus IV you can get on with your business plans.’

‘I’M AFRAID THAT WON’T BE POSSIBLE.’

‘Why not?’ Sandra demanded. ‘It’s our only chance, isn’t it?’

‘SINCE I RE-EMERGED INTO THIS SYSTEM I’VE FELT STRANGE. SOME SYSTEM OF STANDING WAVES IS INTERFERING WITH MY CONSCIOUSNESS. MY SYSTEMS ARE BEING OVERRIDDEN. MY FRIENDS, I AM CEASING TO BE IN CONTROL.’

‘By what?’ and ‘To what end?’ Bernice and Sandra demanded together.

‘ERETH, ERETH, ARU GOMEK ARU,’ the Factory moaned.
‘1001011001001011101110110100100010011010. THE DARK
FUTURE COMETH. ALL FUTURE VO’LACH BASE-CODE-
DEFINED MACHINES TO SHUT DOWN.’

David spun round from the navigation screens. ‘I think
we’re landing on Canopus IV after all.’

‘Near the Spire?’ Bernice asked.

‘No, not near. On top of!’

COVER STORIES

The Factory dipped beneath the cloud cover like a wounded roc. In the desert, work gangs pointed up at it and marvelled. Then it rose again to centre its descent on the Spire itself.

Malkovitch screamed in pain as Mandir's clawed fingers buried themselves in his hair, jerking his head back. 'Keep climbing, human, but look up.' Mandir purred. The guards behind them, armed with the same type of military-style blaster as Mandir had used to fry the Canopusi who had spoken up for the humans, gestured menacingly.

For a moment, Fellows did not understand what he was supposed to be seeing. Evening was falling and the stairs up the interior of the Spire were dark, illuminated only by the pallid glow from the metal girders themselves. Crouching over him, Mandir was a scaled shadow, his robes grey and black mockeries of his normal vestments. Then Fellows understood. The darkness was the point: the electrical storms that surrounded the heights of the Spire were not visible; something had shut them out. Now he realized he could make out slow detail in the darkness. Midnight-black metal moving downward outside the Spire.

'It has come,' Mandir said, gloatingly.

The Factory descended from orbit on jets of steam and fire; just as it had in Mandir's dreams. Take twenty-five square kilometres of alien machinery, of kilns and foundries and furnaces, fit it with lift engines and navigation lights, and wrap it around a core of dark, dark iron; that was the gift his negotiations had brought him. The nightmare factory. The

secret weapon shop of his imagination. His playroom of Armageddon.

Descending, it engulfed the Spire, barely, and was pierced by it. The symbolism made Mandir smile inwardly. Someday a religion without Gods would make this the central icon of their histories. That was his vision. The future, if he had ever seen it. The future coming down to rest below his feet. 'Marvellous,' he whispered. 'Is it not, alien?'

Fellows squirmed in Mandir's grip, but even a crippled Canopusi was more than a match for any physicist. Outside the Spire, blessed darkness descended with the structure as level upon level of fine detailed black metal passed by over the gaps in the walls like the fall of an iron curtain. It ought to make him feel helpless, this arrival of his enemy's new allies, but somehow it felt different, as if Mandir had overreached himself. Some of the elation of the drama in the courtyard was still within him. A sense of revelations.

A piece of the futurite crystal that lined the Spire caught his eye. One in a billion crystals. It seemed familiar. More familiar than the billions around it. He felt as if it was trying to tell him something. How long does it take to develop the power to see the future? he wondered. Could it be done in a month, this close to the power core of the Spire? Was the sudden return of his hope a breath from the future or just the open-eyed awe of a rabbit in the path of a thousand-tonner?

'It's only technology,' he said, willing his voice to sound more confident than he felt. 'What matters is the uses it will be put to. I doubt it's full of ploughs and sandwich dispensers, internal-organ mimicry units, and household resurrectors. Do you think that the ability to make war conveys such distinction on a species that nothing else matters?'

Mandir's foot lashed out, catching Fellows behind the knee. Excruciating pain shot up Malkovitch's leg. 'When I ask a rhetorical question, I do not expect an answer, still less an impertinence. You live solely on my sufferance, and I assure

you that you will not outlive it. This...' He paused, apparently considering his words. 'This bounty is full of things that will serve me, and my crusade. I have, as you surmise, bargained for weapons, but it hardly matters, in the face of this spectacle, exactly what is being given to me. Even if the structure was a hulk, a mere shell, its presence alone would fulfil several obscure prophecies. Even if it were full of medical supplies, I could make use of them to prove that I and not the nonexistent Gods bear the future of my people in my hand. I hardly think there is anything you can do to change the future. Soon my people will walk the stars, and the aliens who have laughed at our childishness will feel our wrath.'

'No one was laughing at you.'

'Only because no one cared enough to even find us amusing,' Mandir shouted. The lungs in his crippled chest pushed the words out with surprising power. 'Oh, it was worthwhile to sneak down and pilfer the gems from the sand wastes, but not profitable to save us from our stupidity. We were not worth trading with. We were not worth talking to. We were not worth arguing with. Our faith was not even a heresy to you, merely a quaint folk way. No one cared to seek us out, to raise us from our ignorance. It has been two hundred years since members of your species first came here to take futurite. In that time my people have remained in bondage to the past, merely because it cloaks itself in the guise of the future. We do not build. We do not invent. We do not innovate. We merely wait for the Gods to regurgitate our meals as if we are the flightless young of the *Gharag* bird. We are despicable, and you were happy to let us remain so. Now, however, we will have a reckoning.'

Fellows winced. He had been raised to believe that it was dangerous to interfere with alien civilizations, that they ought so far as possible to be left to develop at their own pace. Now he was being blamed for it. 'What would you have had us do?' he asked softly. 'Be the Gods from the sky the Vo'lach weren't?' He saw the nictitating membranes, around Mandir's eyes blink dangerously slowly, but he had nothing to lose.

'That's it, isn't it? That's the real core of this. Daddy ran off and left you, and now you're upset because no one else bought you any birthday presents. Well, whoever said that the universe was fair, or run for your benefit alone? Give me one good reason why the rest of the galaxy should have cared that you were daft enough never to develop science because of a knack for precognition and an alien totem pole.' He was shouting now, and a sick feeling in his throat told him that he had gone too far and that the inside of the next coffin he saw wouldn't be the futuristic tomb Mandir had sardonically promised him, but the real underground thing. He was going to be dead in the dirt.

Mandir smiled, his teeth flesh-tearing razors in a tangerine mouth. 'Enlightened self-interest, perhaps? It is an interesting theoretical question, but it is, sadly, too late for that now. We will take what should have been given, and more. Your races will labour for us, and we will do you the favour which you did not do for us and which you have never been able to manage for yourselves. We will kill your Gods, as you should have killed ours. There will be no wasted time on the production lines for prayer, no sabbath, no days of rest or festivals, only the glory of the war machines. Fear not, for you will be happy slaves protected from the cradle to the grave, as subservient to us as to your ridiculous deities.'

He raised his hand, pulling Fellows upright. Malkovitch scrambled to his feet trying not to lose any hair. He was balding fast enough as it was. The mad, ordinary, human vanity of the thought raised his spirits. He had been brought up as a Revised Pentacostalist, but it hadn't stuck; he didn't know if there was a God or not, but he knew one thing. Faith, even faith in things that never were or might not have been, was stronger in adversity than in prosperity. The very last thing that would kill religion was the sort of tyranny Mandir had in mind. If anything the notion that an orange alien with teeth like sharpened knives disapproved of churchgoing would be just the boost that the pastors needed. Maybe it shouldn't be so. Maybe faith was just madness, a madness

peculiar to sentient races that happened to favour the tribes in which it first sprouted, but it remained a fact.

God, in whom I barely believe, strengthen me now, Fellows prayed. It was his first prayer in years.

‘It won’t work,’ he said, as decisively as he could. ‘I don’t think I can explain why, and I don’t think you’d listen to me explain it if I could, but you’ll fail. Maybe not today, maybe not tomorrow, but you will fail.’

‘Ah, but I do not need to succeed for ever. I will bring this galaxy down in flames. I will see your worlds geared to my plans and your children running my slave camps for me in uniforms of my design, and if I fail. Professor Fellows, it will be after you and everyone you have ever dreamt of loving are dead.’ Mandir smirked. ‘I think that piece of rhetoric is one up to me, don’t you? Come on, slaves, we’re going to meet the people of the factory.’

Bernice dragged the injured Captain Johansen down the improvised gangway. The metal planking ran out of the comatose Factory into the upper levels of the Spire, where she had never been. This wasn’t the kind of marvellous return she had intended and something in the air told her things were wronger than wrong.

The Canopusi must have seen the Factory dropping out of orbit: a thing that big couldn’t be hidden, and besides the Spire systems that had shut off the Factory’s autonomy and slaved it into land had threaded it on the biggest needle in the planetary haystack. So where were they all, then? She had expected torchlit processions of earnest monks. Possibly monks who were planning to kill them, or at least planning to force them to reveal important secrets of military technology by painfully applying Canopusi-style medieval persuasion, but still people who - albeit for the wrong reasons - would have been pleased to see them. It was annoying to have flown a nuclear-bomb-propelled rust heap across space and parked it around the local equivalent of the Empire State Building, and still not to be met by *anybody*.

She looked pointedly at Geth. ‘Well, then?’

He goggled, in his hopefully endearing alien way that made her want to barf. 'Well what. Ms Summerfield?'

'Well, where is everybody?'

'I think I know. Look.'

'Ah. I don't suppose we could just forget I asked that question and go the other way.'

'I don't think so. They seem rather insistent.'

There were nine of them, heavily armed with spears tipped with futurite. Each of them wore a white tabard affair with a black triangle in a red square in its centre over the traditional armour. Bernice did not need to know exactly what that meant in native symbolism to know what it *meant*. It was a uniform. It meant armies. It meant war.

'Listen,' she said, 'we've seen the world of the Gods and now we need to speak to someone in authority.'

'They don't speak Ghost,' Geth said. 'They're not priests. Look how half of them are gawking at the Spire.'

'Well I hope they're enjoying it,' Bernice snapped as one of the guards tied her hands roughly behind her back.

The troops led them to an open place high in the Spire. Here the interior honeycomb of the cylinder within the Spire opened up and Bernice could see the violet fire burning down the Core. Its motion was illusionary. What the eye was seeing was the afterimages of material being forced back in time, but the effect was of flame descending from the heavens, flame that fell without a sound. That close to the core the light burnt through bodies turning flesh into translucent shadows, making Mandir look more like a deformed skeleton than ever. He had, of course, been waiting for them.

Mandir snapped an order in his own tongue. Evidently, it was more 'Gag the alien bitch' than 'My goodness me, we'd better lay out the best tableware for our honoured guests', for the guard tore a strip from his tabard and forced it into Bernice's mouth. She did not bother to struggle. Why be imprisoned with a broken jaw?

Mandir hobbled closer, until his old sad face was near to Geth's. Then reaching out he embraced the youngster.

‘Well done, my good and faithful servant,’ he said in Bernice’s tongue.

Bernice willed Geth not to struggle or tense in Mandir’s grip. If Mandir really believed that Geth was still on his side then there was a chance for them all. Then she saw Fellows and the others unkempt and beaten, starved and bound. Elspet essayed a wave but looked like Banquo’s Ghost. A stickily unpleasant smell assaulted her nostrils and she noticed that the luminous whiteness of the cold floor was spoilt by a thin greasy substance, the smell of which made her gall rise. Somehow, although she did not know what that smell was, she associated it with death. There wasn’t going to be time for Geth to take advantage of Mandir’s trust. With a sickly certainty, Bernice realized that Mandir was going to kill them right away, this very minute.

It made sense, of course. Why keep alien prisoners? Even if they were no danger they would be a drain on resources. They would need to be fed and guarded. Nor was there anything she was likely to know that was worth her life. Strategically and militarily her knowledge was archaeologically out of date. Besides it looked like Fellows, Elspet and the others had been systematically interrogated.

Mandir let go of Geth, frowning. Perhaps he had held his body too stiffly; perhaps he had omitted some sign of respect that Mandir had been awaiting. Bernice could not tell.

What was certain was that Mandir knew, or thought he knew, that all was not well with his disciple.

‘You.’ Mandir gestured at one of the tabarded guards. ‘Give me your knife.’

With a salute that Bernice recognized as belonging to a particularly grisly part of Earth’s military history, the guard passed the knife, hilt first to Mandir.

Mandir in turn presented it to Geth.

‘Kill them.’

Geth paused and weighed the knife in his hand. Silently he raised it over his head. He’s going to kill Mandir, Bernice realized.

Then as the light from the Time-Flame streamed through Geth's upraised arms she realized something else. The nodular thing in his arm wasn't just shrapnel: it was an intact piece of machinery. A transmitter. A simple homing transmitter. Oh hell. At lightspeed Canopus II was only fifteen minutes away. How long had it been since they had disembarked?

Shaking off the guard, she ran forward and shoved Geth towards the Time-Flame.

More massive than she was, he barely pivoted but the knife spun away, and his right arm swung back into the violet core of the Spire.

HILL THE DOG ON SUNDAY

The tachyons streaming down the interior of the Spire licked at Geth's arm like fire that was already history. Black and blue fire bruised space and time.

He howled.

Pain is not the worst sensation. It is the prickly bedfellow of every evolving species, giving a jab in the ribs here, and a warning shout there. There are worse things to feel than honest pain. There are experiences for which there are no names in any dictionary; ones that no evolution has prepared us for; ones that are violations of the self as well as the body. Things done with pleasure at one speed become nightmares if distorted. Growth turned back on itself is a torture that would not be countenanced in hell.

Fellows saw a guard reach out to grab Geth's other arm, intending to pull him back from the core of the Spire, compelled by the horror of his suffering, the differences between prisoner and warder forgotten.

'No,' Mandir shouted. 'It is forbidden. It has already been done. Leave him.' He shouted in the True Speech, his own language, but Fellows knew enough of it now to make out the sense.

The Canopusi do not perspire, but Mandir's body movements looked to Fellows to have the jerky lack of coordination that he associated with their panic displays. His own face felt raw and stiff and he had no doubt that it was pale.

Like Mandir, he understood what had been done. He remembered the strange, ghostly smell that had assailed his

nostrils and the faintly greasy feel of the floor of the chamber under his bare feet when Mandir had led him in here, and he felt suddenly sick. The slick oily feel of the floor - oh God, he had touched it.

He thrashed in the arms of the guard who had seized him after Summerfield's mad attack on Geth, trying to turn his head so he could look away. He did not want to see this. He knew what was happening.

Next to him Summerfield was staring into the pillar of energy. Intent as a vulture. Damn her, didn't she realize what she had done? Probably not, he thought. She had not seen what the priests had shown him.

When he had first begun to study, when Tenomi had still protected him, the priests had taken him up into the heights of the explored Spire where the air grew thin and streams of condensation ran like mountain streams down the white metal of the girders. Eventually they had arrived in a narrow place where the boiling darkness that filled the Spire was the merest sliver. This backwater of the time flow was, Fellows had guessed, something like a safety valve or bleeding point for chronological energy. On the white floor in front of this black flame, a single brown seed had rested, cupped, in an indentation in the metal. The priests had taken this seed and pressed it in turn to their foreheads before placing it in a specially consecrated bag.

Then they had prayed for a day and a night. Finally, without further ceremony, they had thrown an *acharl* fruit into the fissure, into the interior of the Spire. Later Malkovitch had been told that the presentation of the *acharl* formed part of a regular ritual that the priests called the 'miracle of the revisited beginning', and he had suspected that it was the last remains of 'corn-king' nature-worship roots within the Canopusi religion. At the time, though, he had been too transfixed to theorize. Seething in the darkness, caught in blue fire, burning and imploding into the past, the green mottled fruit had turned into a seed and vanished, ripped back along its own world-line by the pressure of the anti-time forces pent within the lower. The seed was cast

back a day and a night. It was the seed the priest had discovered earlier. Even as they carried it with them, secret and implicit within a fruit of the tree its predecessor seed had grown. Such seeds, cast back during the thousand years the ritual had been practised, had gradually dented the silver-white structure of the Spire with their minute temporal impacts.

The Canopusi were. Fellows had decided, lacking in at least one human characteristic: insatiable curiosity. Surely, over the centuries that the ritual had been performed some priest would have wanted to find out what would happen if, having retrieved the seed, its causing fruit had not been consigned to perdition.

Now he knew that it was not merely lack of curiosity. It was forbidden to refrain from throwing the fruit because the seed *had* been sent back. It was forbidden to pull Geth out of the flux because they *had* all already walked over his remains.

Thinking of remains made him conscious of the piece of futurite he had carried in his torn pocket throughout his ordeals. If he could reach it. Any hope was worth seizing.

In Geth's arm a million cells fused together, their structures becoming less and less complex, their numbers fewer and fewer.

Mass streamed away from Geth's arm as it was flayed by the negative forces channelled by the Spire. Hurling back in time, its molecules were destined to have already formed a thin faint stain on the pristine glory of the chamber.

Mandir watched, and his grey tongue moistened his suddenly dry lips. It would be over soon. Then arrangements would have to be made for the priesthood to clean the chamber. There were always such tasks. That was why good management was so important. A thought struck him. He wondered if Geth had realized that this was the culmination of his vision, in the square of the thousand mendicants. Probably not. He did not appear to be in an introspective mood.

Geth's arm guttered like a candle flame in a wind and vanished. He started to fall away from the column of light, and suddenly, with no more of himself anchored within the flame, its power, crackling in a bruised purple discharge, flung him back from the inner walkway of the Spire, into a cluster of Mandir's guards. He was in no condition to take advantage of the impact. All that remained of his right arm was an embryonic bud, a tiny collection of mainly undifferentiated cells.

He had stopped screaming.

The nictitating membranes of his eyes flicked back and forth, though. He was blinking faster than any Canopusi that Fellows had ever seen. Fellows realized that Geth was weeping.

Only Bernice had been watching closely enough to see the machinery of the signal transmitter. It had been left within the flame when Geth's arm had fallen away around it. It had been a glimmering dot in the power flare of the Spire interior - a tiny silver techno-seed. Everything had happened too quickly for her to be able to affirm, hand on heart, that she had possessed an actual plan as such. She had hoped that the transmitter would be destroyed by the Spire's power; that it would be perhaps unbuilt, that perhaps it would never have existed to be fired into Geth's arm. She had hoped, faintly enough, that without its signal the bombs would self-destruct or veer off.

Unfortunately the Vo'lach had built well, and their components had the longest successful shelf life in the galaxy. She could only watch as the teeny, tiny, glittering transmitter, still intact, was swept into the past.

The incoming missiles they had left mere light minutes away were locked on the transmitter.

Oh, shit on a unicycle. This was bad.

* * *

Geth was staring at the withered remains of his arm. His face was a sickly yellowish, not his people's normal orange colour. 'I think I'm going to faint,' he lisped.

Mandir raised his hand. 'On the contrary, you are going to die. You have ritually polluted this temple, and -' he smiled 'while I consider that the Gods do not deserve less than to have their temples sown with quicklime, and bombarded with the alien weapons that I soon will own, I have not yet had a chance to revise the statutes on this matter, and I am sure you will agree that there must be due process of law.'

He cast his eyes over the group exultantly, looking for the snake-fear in their eyes. The collapsing faith of the God-worshippers that could never stand before his crusade.

Fellows had managed to work a tiny shard of futurite out of his clothing where it must have been concealed. As a weapon it was pitiful, but the human seemed obsessed by its shape, running his hands over and over its contours as if to convince himself that it existed. Perhaps finally his frail mammal's mind had snapped.

Fellows looked at the piece of futurite. It matched precisely the one in the wall. So precisely, in every complex facet and edge, that it was as if it was a key fitting into a lock in Fellows' head, in the way that the chemist who had discovered the structure of benzene had seen the ring structure in a dream after working on it for months. It was the same - in the sense of being one and the same. It was in two places at the same time - both in the wall and in his hand. The implications were staggering but they confirmed some of his theories.

He had been keeping the future in his pocket.

He fixed Mandir's twitching eyes as effectively as he could with a human's immobile stare. 'Don't rely on the Spire for ever, Mandir. One day it will be destroyed. I've seen it.'

He realized he was having to shout, and looked up.

With the suspicious calm of a woman with nothing left to lose, Bernice spat the gag from her mouth.

'You want alien weaponry, Mandir? Heads up, Canopus IV, here it comes!'

The planetbusters, each a metre in length, travelling at just under the speed of sound to let their sonic booms announce their intent, threaded their smart-weapon path through the latticework outer skin of the Spire.

They had lost the signal now, but their warheads were powerful enough to make a direct hit unnecessary, and their basic programming told them to explode when they reached the last known source of the target signal. They were too dumb not to do so just because it was inside a time machine.

With an ear-splitting rumble they flew over the head of Mandir, and into the throat of time.

Everyone's eyes followed them.

In a fraction of a second the missiles' molten forms were dwindling, twisting into tachyonic matter, being flung at speeds never slower than light into the deep past. They, too, had been built to last a long, long time, a long, long time ago.

Bernice shuddered. 'The past is another country; we send our nuclear waste there.' She closed her eyes.

Fellows smiled. He knew. Drop a bomb into a time machine, and send it back towards when and where the machine was built. Think about it.

It is already too late.

Aeons ago.

'Open the gates,' the Master Builder ordered, and the vortex shields within the Spire were withdrawn into their fractal nanodimensional slots.

The Master Builder looked into the blue-white light that boiled within the tower: strange radiations given off by tachyons moving in the Spire's time fields. The intense antigravity sources buried within the Spire speeded up time in a way exactly opposite to how the gravitational field of a collapsar would have retarded it. In that accelerated time field some high-energy tachyons, energetic enough to be travelling back in time at only just beyond the speed of light, found themselves on the other side of the artificially raised lightspeed barrier. Those few particles were the whole cause

of the spectacle. Slowed tachyons: visible light from the future.

The Master Builder knew there was a project to descramble that light: to decode the images it might carry, but that was not his concern. It was, anyway, a mere additional benefit to the real effort. That the slowed tachyons were pushed still further into the past, that was what mattered. Everything depended on them.

The Master's blue fur ruffled as he gazed with guileless baby-bright eyes into the vortex. In the brightness of the slow light, dark blobs had appeared.

'Surely, the initial tests should not be moving large masses?'

A vivid red engineer peered over the Master Builder's upper shoulder. 'No, my Planner, the first mass retrieval run is not scheduled until after all possible energetic safeguards have been checked.'

'Then what,' the Master Builder said, 'are those?'

Two dots. Getting closer.

'Interesting. Doubtless it is a message from our future selves, perhaps even an exchange of personnel. Prepare a welcome.'

The explosion decimated the Vo'lach science party; the bombs were planetcrackers and they exploded within the Spire itself. Only the immense strength of the building and the partly extraphysical nature of its construction prevented the world beneath it breaking apart; as it was, the shockwaves destroyed the Spire and tore fragments of its mass through its own time fields. Wildly out of adjustment, the lashing super-strings sprayed mass forward in time in a great fountain of hyper-energies. Across the future, fragments of strange crystal fell like rain on the mossy fields of Canopus, blighting the crops.

The disaster was reported to the prognosticators on Vo'lach Prime. They concluded that another space power hostile to their aims and based in the future had attacked them.

This was shocking. Their aims were entirely altruistic; how could any rational species object to them?

Vo'lach scientists examined the wreckage of the missiles that had caused the explosions - such molecules as could be located - for clues as to their origin. They discovered that they had been built, beyond a shadow of a doubt, on Vo'lach Prime itself. The metallurgical properties of the materials involved were unmistakable.

The logic of the matter was clear. Their descendants were trying to kill them.

The universe shuddered. A million years hence, behind barriers of solid time, certain powers watched as the future altered, and debated intervention. In rooms lined with a million dials, each of which, after the first, showed figures expressed in the power of its predecessors, ebony and brass needles buried themselves in the pure white of overload.

The Vo'lach never rebuilt the Spire.

Their morality demanded that they should, but the anger of their children pleaded that they had miscalculated, that they were tyrants, not benefactors, meddlers rather than saviours. Perhaps, some of their philosophers suggested, the survival of the material universe was not the only issue.

With a wave of revulsion amounting to a racial psychosis the Vo'lach reversed the tenor of their civilization; returned to nature. They left nothing to show for their sojourn on Canopus IV except for a slight race memory in the evolving Canopusi that suggested that technology was a bit of a bummer, really, and of course the still falling rocks from the past.

The Vo'lach would not give their descendants any reason to hate them. Nothing was worth that.

* * *

History bled, and the blood made different patterns in the water.

In this history there were no visions on Canopus IV; there was no church; there was no Priesthood. There was no opposite reaction. There was no anti-faith.

Mandir lived and died as a simple mollusc tender on the shores of the black lakes. He had two children and three wives, one of whom had two husbands of her own, and he died choking on a piece of *acharl* pie, while laughing at the attempts of one of his sons to thread rope through a mollusc spear.

Meanwhile, freed of the distractions of science, the Vo'lach discovered hitherto untapped powers of the mind. They travelled the galaxy by mental projection, spreading images of peace and joy. They educated suns and made them smile.

The politics of the galaxy changed wildly.

Some races became hippie fellow travellers; others became bloodsoaked killers, purely in self-defence.

A hundred thousand years later one such race triggered a nova bomb in a territorial dispute with a party of scouts for the Veltrochi Love-In Groove Collective, a neo-funky clan of Vo'lach peace-vibe sympathizers. The backlash from the nova bomb as the catalytic particles caromed through the near stars destroyed several worlds that had never discovered space travel. One of these was Earth.

And all the time the distant galaxies flew farther apart, and no one wondered why. It was, after all, perfectly in accordance with what might have been expected from the likely gravitational effects of their calculable masses.

A certain day clicked round, and this time there was no Spire to send the Vo'lach missiles back in time, no Vo'lach missiles to send back, no earth archaeologist to push her friend's arm into a tearing time vortex, and no explosion.

So the Vo'lach did build the Spire, and used it.

This time they saw what they had seen before. Again, or for the first time, they killed themselves, and programmed their machines to end war. Again their machines, limited and

stupid, strove as well as they could by building weapon upon weapon. Again the politics of the galaxy went untouched by the Vo'lach love sound.

Again on a certain day, two missiles fell back towards a paradox.

This time there were no molecules left for the Vo'lach to find. It had always been unlikely: a billion-to-one chance. Randomness at a subatomic level determined that in this cycle of the paradox the bombs were a fraction more efficient, that was all.

Without that clue, the Vo'lach concluded, as they had once almost done, that an unknown future power was ranged against them. Knowing that they had in mind the physical protection of the entire universe, they projected their ingrained fear of failure upon this unknown future race. Lacking the evidence that the weapons were the products of their own world, they pushed their inner fears out into space. Such a race, they said, must be a collection of pure evil entities, of nihilists and haters of life, a vile pustular stain on the face of all life-bearing stars. The psychotic tendency in the Vo'lach that had once in another sequence of times impelled them into racial suicide, or into pop culture, turned into crusading zeal. Abhorring the idea of violence, in itself, they were still determined to see these alien bastards sorted - whoever they might be.

They built war machines. They built them capable of building others like themselves. They built them smart and they built them efficient.

In less than a hundred thousand years they circled the universe and destroyed the Vo'lach themselves. Of course, out of respect, they left them until almost last.

This time, Mandir was a conscript in the Earth Defence Pact, a ragtag army of aliens drafted under the laser-lash to take point duty between Earth and the Vo'lach breeder machines. His uniform was cloned from the cultured skins of

conscientious objectors; his regimental motivation was supplied with a cattle prod.

He had no family. His mother had died in a flame-bombing on Canopus III. Camp followers got killed in war nearly as often as soldiers.

Bernice von Summerfield was his senior officer, fresh out of Earth's political office, her father an Admiral second only to the feared immortal Death Marshal Falaxyr himself. She bore the insignia of her class and upbringing - all chrome and leather, and bad intentions. She wouldn't stand a chance in this kind of war. Then again, none of them did. The Vo'lach machines did not capture planets: they merely strip-mined them with antiplasma beams. Occasionally, motivated by some randomizing subatomic mechanism, they just blew them up instead.

Summerfield pulled on the leash that tightened the choke chain of Geth, her snivelling, pampered love slave. Her voice did not quiver as she read out the order to advance.

No one got out alive.

A certain day came and went.

The bombs fell, then they didn't.

A certain day came and went.

The bombs fell, then they didn't.

A certain day came and went.

Tinker, tailor, soldier, sailor, rich man, poor man, beggarman, thief. Futures whirled past like leaves in the wind in the trees of the south.

Something lives outside of time in the mind of every conscious creature; call it the soul, or just the part that has to think it has free will. It is the part that has *deja vu*; it is the part that was screaming for the futures to stop.

Mandir buried his son for the thousandth time.

Then he had no son. Then he was a fish, and swam in the warm waters around the volcanic vents in the Southern Ocean.

The relief was immense. It didn't last.

Bernice lived a hundred lives as a cavewoman in an Earth blasted back to the Stone Age in a number of infinitely similar petty nuclear disasters. Several times there were contemporaneous dinosaurs. Something in Bernice thought, in its tortured way, that that, archaeologically speaking, was the last straw.

Geth was, briefly, lionized as the living embodiment of the Time-Flame, given a silver arm with peculiar properties taken from a dead Outer God, forced to bed innumerable virgins and managed, thanks to that niggling feeling at the back of his head, to put off his ultimate ritual self-sacrifice until the day after a certain day. Typically that future happened only once.

Unusually small Martians with unusually big heads, the devolved remnants of a once noble race, attacked and decimated Earth and made everyone watch reruns of *My Dad, Rover*, a twenty-first-century police-procedural sitcom about an NYPD dog-handler whose martinet father was reincarnated as a Great Dane. Eventually they were defeated because of an allergy to mushy peas and a chronic dislike of hula-hula dancing.

The futures got wilder, and then they got more normal. Then they got wilder again.

A millennium hence, or back, or sideways, on a world that it is unwise to name, two creatures watched from behind their walls of solidified time.

They might be called Watchmakers, but even that word might be better avoided. The sort of watches they might make would not be the ones whose construction once appealed to Einstein as a valid moral alternative to involvement in the development of nuclear weapons. Next to *anything* they might

build, nuclear weapons were, comparatively speaking, planks with nails in them.

Their bodies were slices of chronology, which to a three-dimensional viewer might, at certain intersections, be termed humanoid. From the right angle, which was not a right angle, they appeared to wear dinner jackets and could from a distance of years have been mistaken for the newsreaders of a stuffy holovision station. Call them continuity announcers, if you must have a term for them.

‘What do you think?’ the apparently older humanoid said. ‘Harmless prank or retribution in a war that hasn’t started yet?’ It was an old worry among their kind that one day their treaties might be broken before they were signed. Very little is as annoying as to defend yourself against a seemingly unprovoked attack only to discover much later that you had afterwards retroactively struck pre-emptively.

The apparently younger creature shrugged. ‘Search me.’ He tapped his teeth with an ornate scribing stick. ‘Got any muffins? Go down a treat with your basic Jonbar Hinge Incident do muffins. I often think a nice muffin would solve a lot of the universe’s problems.’

The elder drew himself up, and sniffed disapprovingly. The younger had been out into Barbarous Times recently before returning to their Home Era. The trip had been part of the new liberalism (goodness alone knew where it would end); any period beyond their Home Time’s infinitely stable wonderwalls was barbarous, but not even that excused such incorrigible frivolity, and frankly painful diction.

‘Indeed.’ The elder squeezed a full thousand years’ worth of sarcasm into its tone. ‘So if a loop of eternity event such as this were, All Possible Potentials Forfend, to breach our Reality Sphere, you would offer it a muffin. Marvellous! I suppose you think they could be deployed ballistically. Pikelets at the ready, as it were.’

‘Possibly,’ the younger humanoid said, unruffled, ‘or scones. With butter, mind. I don’t think a shifting zone of unleashed time potentiality is going to settle for hydrogenated vegetable oil and colourings. Never in a billion years.’

‘Shut up,’ the elder barked. ‘The Jonbar Hinge is losing amplitude.’ He consulted the needles that flicked back and forth on their sapphire mountings. ‘Impressive sweep, though. Nearly two nanocubits on the paratime scale. I’ve not seen anything like this since that business with the *Hrgrhrgrtrt*.’

The youngster looked intrigued. ‘I’ve never heard of them. Who were they?’

‘No, you won’t have. *That* paradox collapsed destructively. Not even their own mothers would recognize them, if they had required mothers. You can’t be a race of amoebas who divide asexually, and still expect to survive a Grandfather Paradox.’

‘You think the people at the nexus of the crisis might survive?’ the younger said suddenly.

‘With or without muffins you mean?’ the elder said sardonically. ‘Oh I’d say not. Things’ll settle down fairly soon now from our view point. The cycle will throw up a causal event to provide continuity for the explosion, one that is not then deleted by the explosion, and the whole nexus will flip-flop into a new path. We’ll be picking bits of crystallized time out of our hair for years, and, my dear, the paperwork.’ The elder shuddered theatrically. ‘Still, it’ll be better than the *Hrgrhrgrtrt*. Deaths without births! Ugh! It’s so hard to know where to send the wreaths.’

‘I think it’s going to die down, naturally,’ the younger humanoid said, jotting a few figures on his immaculate dress-shirt front. ‘The amplitude is decreasing. Eventually the mere probabilities of subatomic interaction will cause the missiles neither to destroy the Spire, nor divert the Vo’lach’s destiny and then the original time web will reassert itself.’

‘Balderdash.’

‘Codswallop!’

‘Addleplated, muffin-headed theorizing!’

‘Look, the time bubble, it’s crystallizing.’

They studied the monitors.

‘Ppuf, I call that a cop-out.’

‘Ha, just because you were wrong.’

‘So were you.’

‘Was not’.

‘Were too!’

This continued, outside time, for some considerable time,
relatively speaking.

INTERLUDE

THE FUTURE

David strode along the corridor with an unusually emphatic gait. When he got to a particular predetermined point a window opened in the air and a shape on edge folded itself into a dinner-jacketed arm. The arm handed him a tin of paint, after which the window shut itself again with a tinkling shudder.

David did not turn a hair, but set to work at once: he knew he did not have long.

Soon he was able to step back and admire the appearance of his painting.

It was a white square of wet paint in which gaps let the black ship's metal through to make words. The words read: WET PAINT - DO NOT TOUCH.

He was almost done.

He glanced at the thing on his wrist that was connected to Time. It formed an eye and winked at him. Even less time now (local).

He had enjoyed this further slumming in Basic Time, but it was time to be serious. It was necessary to insert a variable occasionally, particularly when dealing with amateurs. With what they had experienced already, they *deserved* a break. A bona fide miracle, an intrusion into space-time of a new element not in the original matrix. A correction. A tiny push. Even treaty-breakers had their uses, properly monitored. It would not do to let a known variable be replaced by an unknown one just because of a bit of metatext. Besides, he had run through the event sequence with them, albeit only when he had known that it came out right, and for averting a much worse chronoclysm, a little thank-you was in order.

The wrist unit burped rudely with a red-lipped mouth.

Just before the angel came around the corner, the Watchmaker flipped sideways and stretched into a multitude of dimensions.

EPILOGUE

From the diary of Professor Bernice Summerfield

Well, we all got out alive. Just.

There was no fight left in Mandir. He just wanted to go and hunt molluscs, and he certainly didn't want anything to do with me. I think the new Priest-King will let him go.

They've postponed the coronation until Geth's arm has regrown, but even so I don't think he's going to be comfortable with me about at the ceremony. I don't think he's forgiven me. I don't think I want him to.

Jane Steadman turned out to be still alive. Mandir had her in another cell working on bio-weaponry.

According to the interstellar news the Vo'lach have now ceased trading and are a republic headed by an elected Air Vent. The sentient oil, *the Life*, is being sued for trespass by the military, and is countersuing for squatters' rights, and alleging kidnapping, illegal servitude, barratry, and assault with several deadly weapons. With luck the case will run and run.

The *Second-Best Buy* limped back into orbit around Canopus IV after we got there with a hair-raising account of their escape from the Vo'lach System, and the Factory is recovering nicely from the automatic overrides, and intends to set up shop around the remains of the Spire.

There is bad news, though.

The Spire's half ruined. I suppose the bombs exploded partway back in time, just not far back enough to change anything that would preclude the Spire working well enough to send them back in time to explode. It's stopped working now, though.

There's a religious war going on.

It started back when the bombs exploded.

I gather certain sects of the priesthood got the blame. Sign of the wrath of the Gods and all that. The recriminations caused a split in the church and years of suffering for the common people.

Hey, I caused that.

I caused lots of things.

I'm just going to leave.

No goodbyes here.

Later: I'm recording this on an audio-log. I just don't feel like writing, I suppose. My stateroom on the *Second-Best Buy* seems even smaller and greyer than ever. So I'm going to sit in it and see if it will implode during the trip back to Dellah.

I've been drinking for a while now, and every so often I pick up the pill bottle from the dressing table and look at it. It's getting harder and harder to put it down each time. They tell me it's the side effects that kill you every time.

I feel like Hitler, only guiltier. That is, I feel how I think Hitler ought to have felt, if he had had any sense of guilt, and not been mad or bad. Is there a difference? I wonder.

It's taken me some time to get it sorted in my head. I'm no physicist, though I know some people who are. It was bad enough when I thought I'd caused a minor time paradox, even when it seemed a nice harmless self-cancelling one. Oh I knew I'd bugged up a planet's history, but at least I could tell myself that I stopped a jihad on a galactic scale, and helped free a sentient air vent, and ended a centuries-old arms trade, and that it was self-defence. I think I could have lived with that. Never mind that I knew - and the past tense is the right tense,' probably - people who would have sacrificed their lives and their friends' lives, and their friends' pets' lives, before causing such a paradox, before even allowing one to happen. I could have weathered that. Get the drinks in. Let it lie.

That was before the physicists worked out what the Spire really was; before I knew that I had killed those people, possibly. Probably, possibly.

Them and everyone else, and their friends and their little pets and their children's children to the nth degree. Eventually, possibly.

I just may have killed the future. I would cry if I could, really, but my eyes just stay dry. Paralysis of the tear ducts. The ship's pharmacy did not mention that. Only the standard 'do not take with alcohol' warnings.

You see, we think we know what the Spire was now. Now that Fellows has hypercabled his findings back to Dellah; now that Farouk and Singh have torn their hair out over the maths; now that half the quantum physicists and all the cosmologists in the university don't know whether to kiss my arse or tar and feather me.

Until a week ago, as well as this year's new crop of problems, there were two great mysteries in astrophysics that had survived centuries of thought and experiment: why do galaxies cluster together when the visible matter in them isn't enough to prevent them flying off into the void? And why is the expansion rate of the universe so finely balanced that it is impossible to say whether the universe will collapse back on itself or expand for ever?

Well now we know. Because the Vo'lach wanted it that way. They couldn't decide whether red-shift expansion or blue-shift contraction would be safer for life; so they built a mechanism to maintain the balance until they could decide. The Spire wasn't built as some humungous time scanner; that was just its lethal side effect. It was a tool for perfecting the universe. All the time it sat there, time-sensitives evolving around it, it was sucking matter back from the future, creating tachyonic dark matter not just in our galaxy but, we guess, right across the universe. We *can* only guess. It will be a billion years before changes in the local group of galaxies confirm it. The Vo'lach weren't setting out to see the future: they were designing it. It's all in the record written into the isohedral structures of the cluster molecules the Spire's outer

sheath was built from. Those bobbles on the outside of the Spire are the biggest crukking mission statement in the galaxy.

When they started the Spire working there *were* no quasars: that's why they don't appear in the Vo'lach star maps. The quasars were created later from energy pushed back in time and far away in space by the Spire, but even those were only side effects. Test runs, trial foci. Pinpricks.

The Vo'lach had calculated that the future survival of all life depended on the universe remaining open, until life had spread far enough across space-time to artificially manage the collapse, to turn the imploding universe itself into infinite energy sources. They determined early that nature alone would not guarantee that the universe would not either collapse too early, before life was sufficiently established, or else never collapse but flow out uncontrollably into heat death, ending with the galaxies as infinitely separated clouds of iron, as suns decayed into cold hard dust, with finally even protons dissipated into the eternal night.

They never travelled far, but they had science we can't even guess at.

They built a mechanism to regulate the expansion of the universe, and powered it with the energies from other potential universes. They pulled matter from the heat death of a million potential futures and sent it back in time to make extra mass to bind the galaxies together. Fellows tells me that a physicist called Paul Dirac once suggested that the whole universe might be built out of one particle moving back and forth in time and space. The Vo'lach made that true in part. They ran the universe back on itself to save everyone, and in the process they fixed for ever a single random future the prospect of which destroyed them.

Then I came and blew it up. I've ended their work, and hence, possibly, ended everything, and there's more. The reason why the Vo'lach could not escape from the future the Spire showed them wasn't that they did not guess the riddle right: it was that the very existence of the Spire locked that

future into reality. All history had to tend to that future because light from it was already here, in the past.

Now randomness is seeping under the doors of the universe, and outside it is cold and dark.

From the moment the Spire ceased to function, the future began to be affected by quantum drift, by the endless clatter of the dice that so horrified Einstein, the ultimately meaningless causality of subatomic events. Without the Spire's relentless time pressure tweaking the universe into certain preordained paths, every non-causal subatomic event that happens now points us towards a spread of futures opening out infinitely in a fractal nightmare. I have planted a tree that has branches upon branches upon branches. Everything I do now, every decision I take, every decision anyone takes now, every drop of sweat that in falling hesitates between two equally probable paths upon a lover's back splits the world. The future is a grey mist of probabilities.

Oh, the cosmologists are worried enough, but that will blow over. The human race isn't built to care very much about the next thousand years, let alone the next billion, and perhaps that's why - unlike the Vo'lach - we aren't extinct. Perhaps being willing to muck things up for your children is a survival characteristic. I'm not really mourning the human race or the cosmos, but certain real people. You see, the future wasn't unknown to me. I had friends there. Time travellers, future cops, cosmic hoboes, people met in passing. Ghost ships in the night.

Now I don't know if they still exist. I *may* have just signed the death sentence for Chris and the others, for a future of skycities and Empire, for poverty and glory, for Federations and peace treaties between galaxies.

Oh shit, I'm going to...

Extract ends

Clarence stopped in the narrow ship's corridor and hesitated a moment looking unconsciously - yes, he did have an unconscious now, for his sins - for a distraction. The hum of

the spaceward wail attracted him, but the sign indicating that the wall had been painted forbade physical investigation.

Oh well. He suspected he was delaying the debriefing deliberately, and he marvelled at the squeamishness he had developed in respect of this task. What was it about *feelings*? Things had been so much easier when he had been a Ship.

Only animals are squeamish, he said to himself sternly, only icky, lower animals; not me.

Liar, liar, pants on fire, a still small voice said in the back of his head.

With a hand whose biology was a lie he pressed the door sensor of Bernice's stateroom. A minute later he was cradling Bernice's head in his arms; oblivious to the vomit clinging to his bare feet.

Bernice woke with a head that felt like Hitler's after a session chewing a half-rug poisoned by British Intelligence at the suggestion of a mysterious man with wings.

Clarence was stroking her head and whispering. She couldn't hear the words, but they made her feel safe, and warm. It was comforting and for a moment she almost let it wash away the guilt, and then she recognized the words as a tune her mother had sung to her as a child, and she wondered how Clarence knew it, and remembered that God had a simulacrum of her with presumably her memories, all her weaknesses, all her push-buttons. How many times had this been tried out mathematically?

'Let go of me!' she snarled, narcotics bitter in her mouth, wondering how she could ever have contemplated... that is, could ever have been so stupid as to take tranqs on top of brandy. What had she been thinking?

Clarence's face, incuriously innocent, beamed too near to hers, and she lashed out backhanded and felt, in that sick moment, a feather break under her knuckles with the sound of crystal shattering.

Clarence sighed, and ruffled at a dented wing. 'You are assuming that the paradox you created was that which destroyed the Spire, but it wasn't, or at least it wasn't

necessarily *that* paradox that destroyed it. The Spire was *always* going to fail somehow. It was a paradox in itself. Eventually it would have created a past in which dark matter had penetrated back so far that the universe had always appeared naturally to be that which the Vo'lach wished to create, at which point they would no longer have perceived a need to build a Spire to make it so. So they would not, so it would not, so they would, so it would, for ever round and round until somewhen, some random change destroyed the cycle collapsing it into a logical causal series, just as your smaller paradox collapsed. The universe was *already* within a massive time paradox, and the smaller paradox you assisted to create merely floated out and popped it. Soap bubbles within soap bubbles, I assure you. As for the future and all its inhabitants, I think you'll find they are much as they were always going to have been.' Clarence blinked. 'I hope the tenses in that sentence work out.'

'It wasn't me,' Bernice said slowly.

Then, 'They're not dead,' she shouted. Then she followed it up with a pillow hard to the angel's face. She did not say, 'Where the hell were you when I was thinking of what I'm never going to admit I was thinking of?' She did not have to say it.

Later when she was calmer, Bernice asked for the text of her book. Clarence realized that it was this he had been dreading.

'I suppose you'll put it straight in the recycler,' he said hopefully as he handed it over from the glowing space in the air where it had been hidden. 'I mean, you'll want to do the work yourself, really, won't you?'

He felt that he must look really shifty again.

'Don't you know?' Bernice asked sardonically. 'Isn't my every action transparent to God?'

She flipped the sheath of pages.

Most of them were blank, apart from a section on galactic myths and a Post-it note that read 'too few Martians'. It fluttered to the floor like a yellow butterfly.

Clarence blushed and, strangely, felt it not at all unShiplike to do so.

'I, ehm, did say that it was a *perfect* simulacrum, didn't I? So, well, er, naturally it only wrote as much as you did.'

Bernice glared at him. 'So what on Earth made you offer its work to me as payment. You realize I could sue for breach of contract.' A smile was creeping around her face.

Clarence was fidgeting wildly with his feathers.

'We, er, tested out offering it as payment, using a second simulacrum. Erm, it refused point blank to accept the book but insisted on taking the assignment anyway out of stubbornness. God was convinced you would do the same. It was quite a shock when you agreed.'

'You mean I wasn't predictable?'

'Well, I suppose if God had emulated a statistically valid sample of Bernice simulacrums then the probability of your actions could be determined from them, but on a one-to-one ratio, no you're not.'

'Marvellous,' Bernice muttered. There was sarcasm there, but there was, Clarence thought, satisfaction as well. He wondered if she suspected that God had picked her deliberately to collapse the Vo'lach paradox because alone of its possible agents she had the requisite experience of time travel. He wondered if she suspected that God had chosen the time at which the bubble should be burst to ensure the best possible future for the People. He wondered if there were a billion, or a billion billion, universes in which he had opened the door and found Bernice dead. He decided it did not matter. This Bernice was alive.

The future was alive.